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The Journal of Higher Education JUNE, 1935 II

Planning for the Future

By HARVEY WALKER

Social and Economic Planning in Higher Education

THE report of the National Resources Board was issued from the Government Printing Office on December 1, 1934. The subtitle of the report pointed out that it related to national planning and public works in relation to natural resources, including land use and water resources. In the letter addressed to the President which accompanied it, Secretary of the Interior Ickes, chairman of the Board, suggested that the report was the first attempt in our national history to make an inventory of our national assets and of the problems related thereto. But an examination of the report itself shows that the subjects dealt with are land planning, water planning, mineral policy, and surveys and maps. While no thinking citizen, least of all a member of the academic profession, would minimize the importance of national planning in the field of natural resources, it seems a bit unfortunate that our pressing national problems should be approached from the material rather than from the human side.

The members of the National Resources Board were not blind to the importance of human beings as a natural resource. In the Foreword to their report they pointed out that:

> Human resources and human values are more significant than the land, water, and minerals on which men are dependent. The application of engineering and technological knowledge to the re-organization of the natural resources of the nation is not an end in itself and is to be conceived as a means of progressively decreasing the burdens imposed upon labor, raising the standard of living, and enhancing the well-being of the masses of the people.

The body of the report itself indicates that the Board has prepared its recommendations in such a way as to accomplish the ideal just

set forth. But unless the National Resources Board is prepared to proceed further with its inquiries and prepare a national plan for our human resources, there is still a large task ahead for some new planning agency.

Compared with subjects dealt with in the report of the National Resources Board, planning for the utilization of human resources presents a pressing problem. Human beings are born, grow old, and die. Minerals form slowly and except for long-range changes of type, remain intact in their deposits until they are extracted for human use. The land is a constant factor, affected somewhat by changes in climate over long periods of time. Water is an ever present resource affected somewhat by drouth, but the failure to use water resources adequately cannot have the same social significance as the failure to use our wasting human resources adequately.

PLANNING for the optimum utilization of human resources is partly a problem of population, partly a problem of economics, and partly a problem of education. Because of the limitations of space, this discussion will be confined to one small aspect of the problem of planning in the field of education. But before passing from the general problem, may I repeat that we have up to the present neglected to prepare an adequate national plan for the utilization of our human resources. Such a plan is sadly needed if we are to make satisfactory and intelligent national progress.

The field of planning in education is an enormous one. It involves such fundamental questions as: How much education can we afford? What is the minimum educational attainment which will assure the realization of the beneficent results of democracy? How many individuals trained to the level of elementary-school graduation, how many of those trained to the high-school level, how many of those with college and university training, and how many with professional and graduate training can we utilize in our civilization? We must think about these things both as educators and as citizens. We are also concerned about them as parents. Most of our thinking regarding these problems in the past has been partial, fragmentary, incomplete. Imagination of a broader gauge than has yet been brought to bear upon these problems will be needed if satisfactory solutions are to be found.

Let us take one evidence of the results of lack of planning in this field which has a definite and direct application to our own work. Why are college graduates finding it so difficult to secure employment? The easiest way to dismiss this question is to say that it is because of the depression. True enough, the depression has accentuated the seriousness of the situation, but the problem of placing graduates of professional and graduate schools in positions suited to their attainment was present before the depression started. We, in the universities, find ourselves concerned with the same phenomenon that is troubling the world of business. On the one hand, there is a large

production resulting in the existence of all the goods that can be consumed and more; yet people are starving for want of the goods which are so plentiful. Our educational processes turn out thousands of professional and graduate students every year—keenly trained young minds who need only an opportunity to make a substantial contribution—and the opportunity is not there. Yet there are thousands who need this expert service. The economist tells us that the dislocation in the economic field is in the distribution system. It seems likely that there is a similar dislocation between the production of and demand for college graduates. It is the system of distribution by which the job and the graduate are brought together.

It should not be necessary to labor the point that there is an overproduction of professional and graduate students in many fields. We are all aware of the unemployment in the fields of engineering, architecture, and even law and education. When an overproduction is discovered by an economist, he usually recommends either that production be limited until demand has caught up with production and the surplus has been absorbed, or that the demand for the product be stimulated by artificial means. Both of these courses are open to us.

SOME of the causes for this poor adjustment between supply and demand include, first, leaving the choice of courses to the individual without an adequate amount of well-informed guidance. Most college students, when they enter college, have no idea what they want to do after graduation. Those who profess to know often have had the choice made for them by relatives or friends. There is not the intelligent adjustment of training to aptitude that there should be. A second cause of our present difficulty is the lack of co-ordination between the institutions of higher education. A demand arises for individuals with a new type of professional training. This demand is brought to the attention of a number of institutions of higher education. They all establish courses for the training of such individuals without sufficient regard for the plans of other institutions or for the probable demand for graduates in the field. Many more individuals are trained than possibly can be used. While, in some cases, this training may be of such a nature that it will serve to prepare the individual for some other occupation, in many other cases, the value of the training is lost if the individual cannot apply it.

One example may serve to illustrate the type of difficulty which arises from lack of co-ordinated planning. When the city-manager plan of municipal government became popular, about 1915 to 1920, one argument advanced against its adoption was the lack of trained individuals who might be employed as managers. True enough there were, at first, too few qualified men. The established professions, such as engineering, furnished most of the first managers. But soon a number of university training courses for the profession of city management sprang up in widely separated parts

of the country. Some of the graduates of these courses have entered the managerial profession, but many others have been forced to take up other lines of work to avoid unemployment. Many of these courses have been dropped from university curriculums. Others persist although experience has shown that there is only a small market for their product. Of course, this country should be able to use many times the number of persons in the field of public administration than are actually being placed under present conditions. But an improvement in the demand for the educational product in this field requires substantial changes in our outworn democratic theory. The mass of the people must be convinced that government is a technical task which must be entrusted to experts. When this realization appears, the existing output may be increased many fold in this field without danger of glutting the market.

LACK of co-ordination between institutions arises out of the competition for students and the common feeling that the prestige of the institution must be maintained. Wasteful duplication of facilities can be avoided only by careful planning on a nation-wide scale. Such planning should allocate to those institutions which, for one reason or another, are qualified to render a service, the performance of the function to the exclusion of other institutions not so advantageously situated.

It should not be assumed that this competition and wasteful expenditure of money and human resources should be blamed entirely upon the institutions of higher education. Only in a few cases would it be possible for such institutions to determine the probable demand for a certain type of professionally trained graduates before enrolling students for training. In a great many other cases it would not be possible to know about the demand in advance. There are no facilities on a nation-wide scale for determining the probable demand for a particular type of trained individual in a given year or period. Furthermore, the institutions have placed undue reliance on the ability of the graduate to make a place for himself; where there is an oversupply of graduates in a given field, the presumption is that the jobs will go to those who are best equipped, both by personality and by training. While there are some factors which tend to discount this principle, such as the prestige of an institution, political influence, and personal friendship, no doubt the theory of the survival of the fittest is at least partially true. The social loss, however, is great for those who lose out in this struggle. When the production is greatly beyond the demand, there must be a large elimination. The idea that the good graduate will make a place for himself is obviously a bad one from a social point of view.

Another factor which tends to produce the situation which we have today is the slowness with which institutions of higher education adjust themselves to changes in the demand for their graduates. For one thing, it takes from two to four years to train an individual for most specific

occupations. Furthermore, changes in courses and curriculums traditionally go through a process of discussion and action which requires from a year to two years before any substantial change can be made. It would thus be from four to six years in a large institution of higher education before an adjustment could be made to an entirely new demand.

Finally, as a contributing cause of the present maladjustment we may consider the shutting off, at least in part, of the opportunities for the export of our trained professional students. The wave of economic nationalism which has swept over the world since the World War has resulted in the imposition of heavy tariff barriers against the influx of foreign goods. There has been a corresponding development of national self-sufficiency in the training of individuals to carry on the economic and social life of each country. Whereas in the past our engineers have gone to the ends of the earth to help develop natural resources, today the demand for such trained individuals has fallen almost to zero. One reason, of course, is that we no longer export surplus capital in such quantities, but the fact that our export market for brains is drastically reduced is at least a partial explanation for our present overproduction.

SOME of the results of the present system, or lack of system, are temporary, while others are permanent. One result which is obvious is the unnecessary unemployment of well-trained individuals. This situation results in an appalling waste of human material. The one year, three years, or five years in which a keen young man or woman, adequately trained for a responsible professional position, remains in idleness dull the intellect, crush ambition, waste the most productive years, and constitute a loss which can never be replaced. Some of these young men and women do secure employment but not in positions suited to their qualifications. Here again there is social waste, although it is not so complete or so devastating to the individual as in the case of those individuals who secure no employment at all. Obviously, it is not producing the greatest social utility to employ a highly trained engineer as the foreman of a ditch-digging gang, or an architect as a draftsman. If it be urged that we should raise the educational qualifications for all types of work, it would seem pertinent to suggest that for the present we spare our limited trained human resources for those tasks demanding the highest intellectual qualifications. There are many such tasks now being inadequately performed. Only when they have been satisfactorily provided for, should we consider raising the qualifications for the lower posts.

The psychological effect on the college graduate of spending four years in a professional course in a college or university and finding, on graduation, that there is no place in the field in which he has specialized is a serious one, both to the individual and to society. Small wonder that there has been a rapid growth of disaffection among the young intellectuals. There is something wrong

with a system which cannot adjust production to demand in the field of education. The taxpayer also is raising questions, as well he may. Why train so many teachers, engineers, architects, and lawyers, when these occupations are overcrowded? There is no answer except that we ought to be able to use more trained people.

IT SCARCELY would be appropriate to denounce our system of higher education as a failure with respect to its adjustment to demand without offering some constructive suggestions for future action. These are advanced with a great deal of diffidence; they are suggested merely to serve as a basis for a more comprehensive program. In the first place, it is suggested that there is a need for adequate data on the probable demand for graduates in the various professional fields of economic and social activity in the United States. Such information can be collected best on a nation-wide scale by the United States Office of Education. The United States Bureau of the Census already has information on the number of individuals employed in certain occupations as of the year 1930, and if a special census of unemployment is taken in the near future, even more recent figures should be available. Before many years, by the plotting of curves of employment and unemployment in various lines of professional activity, it would be possible to project demand with reasonable accuracy. These figures on actual employment and potential employment in each line of activity, both domestic and foreign, should be furnished to all institutions of higher education in the United States.

There should be a national planning commission for education which would attempt to correlate the actual production with the effective demand. It should suggest, for instance, that in 1937 we will need so many engineers. The institutions which are training engineers should then get together and apportion the number to be trained by each institution in each line of engineering, allowing for wastage, and enrollments in engineering courses should then be restricted as far as possible to provide an end-product of graduates sufficient to meet the demand. Some slight overproduction may be called for, particularly in those lines of activity where basic training may be turned to other purposes if employment is not immediately available.

A change in the policy of recruitment for certain professional schools may be what is required. Why should young men and women fresh from high school and faced with the adjustment which must be made to a new environment radically different from the home, be required at the same time to choose a career in one of the professions? Colleges of education, engineering, commerce, and agriculture might profit from the example of colleges of medicine and law and take their students only after two to four years of liberal-arts work has been completed instead of as Freshmen. We can never have too many graduates of liberal-arts colleges. Such a period of delay before enrollment in a professional school would work to the advantage of both the student

and the profession. The student would gain in maturity and in seriousness of purpose. He would have had a wider contact with various fields of human knowledge and activity and, hence, would be better able to make a choice of a profession. While the period of preparation in the professional school might be extended, the enrollment could be selective and limited to the number likely to find employment. There would also be a smaller loss due to failures and a correspondingly beneficial result upon the psychological attitudes of those who were enrolled. Aptitude could be tested with much higher reliability.

IN ORDER to make such a program effective, it would be necessary to have in each college and university an office for student-personnel activities. This office should possess all of the basic information which is collected by the national planning board, should be familiar with the institution's program of training, should know the limitations imposed by the national plan, and should advise students in the selection of their professional fields for training in such a way as to carry out the plan most effectively. This would also require the development of reliable indexes of aptitude for all of the professions.

Certain institutions should be encouraged by the national planning board to reduce their offerings in professional fields in which they are not well prepared to offer adequate instruction. This could be done by national subsidies to approved institutions. Any national plan should demand that the training which is given be given by those institutions best prepared to give it and that the uneconomic units, if possible, be eliminated.

Another suggestion is that additional employment for socially needed occupations be stimulated by national and local action. Medicine, for instance, is reputed to be an overcrowded profession. Enrollment in medical schools has been drastically curtailed. One result of this, of course, has been the development of a higher type of medical student and graduate. On the other hand, it is common knowledge that the people of the United States are not being served adequately from a medical standpoint. Limitation of the number of doctors has resulted in the keeping of their fees at a high level, and while the poor are served free, literally thousands of individuals of the lower middle class cannot afford the medical attention which they need. The development of adequate medical service to the people might require the socialization of medicine. Any such step as this would result in a large increased demand for well-trained physicians.

Another place in which additional employment can be stimulated is in the public service. There are positions which are now handed out to political supporters as a reward for political activity which could and should be placed in the competitive class of the civil service and filled by examination. Such a step would offer to college-trained men and women a career full of opportunity for constructive service. In Great Britain, the recruitment to the higher posts

in the public service is most carefully correlated with the university program by a system of age limits. The public service there regularly secures the most promising university graduates each year. Recent developments in Washington seem to indicate that the national government now is moving in this direction. The report of the Commission of Inquiry on Public Service Personnel issued a few weeks ago recommends the immediate establishment of a career service in this country.

ONE final suggestion is the further development of work-study programs by institutions of higher education. A number of schools such as Antioch College, the University of Cincinnati, and others have made co-operative arrangements with industry and public service, by which their students study for a period and work for a period. Upon graduation, such students are quite often and quite naturally absorbed into the industry or employment in which they have spent their training period. Such a scheme offers an opportunity for earning for the student who may need this assistance in order to enable him to secure the advantages of a higher education. It also eases the transition between university study and socially useful employment.

This program is incomplete, but it is thrown out as a suggestion for definite action in a field in which only inaction and diffidence have characterized the conduct of most educators up to the present.

NOTE.—The National Resources Board has just announced the appointment of the following committee to deal with the problem of human resources:

Representatives of Education:
E. C. Elliott, President, Purdue University
Walter D. Cocking, State Commissioner of Education, Nashville, Tennessee
E. L. Thorndike, Teachers College, Columbia University
Representatives of the Social Sciences:
Joseph H. Willits, University of Pennsylvania
Lindsay Rogers, Columbia University
Harry A. Millis, University of Chicago
Representatives of the Natural Sciences:
John C. Merriam, President, Carnegie Institution
Edwin B. Wilson, Harvard University
Frank R. Lillie, Dean, University of Chicago

Is the Game Worth the Candle?

By STUART M. STOKE

The Liberal-Arts College in a Changing Educational Pattern

IN ONE of the annual reports of the Carnegie Corporation Mr. Keppel said: "It requires no great courage to predict that if it is to survive as a characteristic feature of American education and American life, the independent college must become a very different place from the conventional type which prevailed in the first quarter of the century."[1] The change will require "study rather than money."

The colleges also have been aware of this for some time, perhaps not in any such acute way as Mr. Keppel, but at least aware enough to be discontented with the *status quo*. To be sure there are satisfied colleges here and there and complacent faculty members everywhere. No college has openly echoed Mr. Keppel's fear that the results we are getting are not worth the price we are paying (not only in terms of money but also in years of youth), but the urge for educational reform inside the college gates does indicate at least a partial agreement with our distinguished critic.

The immediate threat to the colleges in the changing educational pattern lies in the development of the junior college and its articulation with the university. This is a pattern of educational organization like that found in much of Europe. Secondary, or general, education is to be carried two years further than is the case with our high schools, and then there is to be a sharp break between it and the university. The university is to drop its concern with general education and confine itself to the functions of the training of professional specialists of various types, and the conservation and extension of knowledge. This is, without doubt, a neater and tidier bit of educational housekeeping than the vague high school–college–university arrangement with its overlappings here and there. It appeals to efficient minds. The measure of its appeal may be seen in the extremely rapid growth of the junior colleges—there were 47,329 students in public junior colleges in 1931 (exclusive of extension students), six times the number reported in 1922. The number of students reported for private junior colleges in 1931 was 29,067, four times the number in 1922. The liberal-arts colleges seem to be caught in the jaws of a giant nutcracker with time and educational change inexorably squeezing them together. Expert observers of the junior-college movement openly ad-

[1] *Report of the President and Treasurer*. 1934. p. 38.

vise the four-year colleges to become either junior colleges or three-year post-junior colleges, terminating their work with a Master's degree.

WHAT changes have the colleges been making meanwhile? One reads endlessly about honor work, tutorial schemes, comprehensive examinations, and reorganizations of this or that phase of college life. But these have been largely directed toward the raising of the standards of scholarship, whereas the nature of scholarly work has been left largely to take care of itself. The most important change in the liberal-arts colleges which has taken place since the turn of the century has occurred so gradually that it has received little notice. I refer to the expansion of the curriculum. The average college has increased its course offerings by three hundred per cent during the past thirty years, and now the student faces a bewildering cafeteria display of learning when he tries to choose his work for the four years. The college has not forsaken him in front of the counter, however. As a corollary to the expansion of its curriculum, the college has divided itself into two parts. In the first two years the student is treated to samples of intellectual nourishment from which he is to choose whatever is most palatable to him, and in his second two years he is to confine his diet largely to these and allied dishes. Thus, the college has, in effect, become an imitator of its competitors. It acknowledges that it is terminating general education at the end of the sophomore year, and proposes for the student thereafter a career of specialization. This is the exact pattern of the junior college–university system. Has the liberal-arts college adopted the motto of the politician, "If you can't beat 'em, join 'em"? Or is it acknowledging the superiority of the junior-college and university pattern of organization and purposes? Or is its change due to lack of vision on its own part? The colleges may well ask whether their policy of starting each student off on a pattern of professional scholarship is wise.

There are at least four reasons for answering this question in the negative. First, the colleges are unable to compete on equal terms with the universities in the matter of developing specialists. Second, the universities already turn out more specialists than the country is ready to absorb. Third, a large proportion of college graduates do not and cannot enter their field of specialization in a vocational way. Fourth, the world will always need many individuals whose cultural training commits them to an attempt to see life steadily and see it whole on a much higher level than is now attempted by the junior colleges.

The first of these reasons ought to require but little support. The liberal-arts college usually has a relatively small enrollment, endowment, and faculty. In spite of the increase in the number of course offerings in the past thirty years, the two hundred to four hundred courses found in a liberal-arts college offer no such range nor intensity of specialization as are open to students in a good university. Sometimes the

college urges that it can provide more individual attention than the university. To which it may be retorted that if an embryonic specialist needs a nurse at that stage of maturity, then he might much better be lost in the competition early rather than late. No, if a crop of specialists is to be the outcome of education, then the independent liberal-arts college can be at best only a weak competitor of the university.

The contention that the universities are turning out more specialists than the country is ready to absorb needs some defense and modification. The number of people in the professions in the United States is about ten times as great as in 1870, and the percentage of people so engaged is 6.5 as compared with 2.7 then. Many professions are overcrowded, and efforts are being made to limit new members. The number of professional people the social order will support depends upon capacity to pay as well as ability to use, and undoubtedly we can and will support more in the future than in the present. But certain fields of specialization expand only a little in response to increased capacity to pay. The social order can absorb only a limited number of philosophers, historians, classicists, mathematicians, and the like. Europe has many Doctors of Philosophy directing street traffic, selling shoes, and the like. Some countries are frankly asking the question of their universities which Mr. Keppel has raised with respect to the colleges, "Is the game worth the candle?" Such specialization is of little social value unless directed into productive channels, and it is doubtful whether European countries will long tolerate the waste. Germany has already declared herself unable to afford it, and not long ago Herriot warned France of the danger of producing an unemployed and unemployable intelligentsia. We have not yet reached that point, but it is just around the corner. But if such specialization be waste, what about the annual production of half-fledged specialists by numerous colleges and universities, christened A.B. and admitted to the society of educated men? Except for the small percentage which goes on to graduate school, the specialized training is of little or no vocational value—and specialized training is essentially vocational.

BUT this leads to the third argument in this brief against the course of college change. A large proportion of college graduates go into unspecialized work, or work for which the college offers little vocational preparation. Sometime in the twenties, 65 per cent of the graduates of Harvard College went into plain business. The bulk of women who graduate from college go into homemaking. The high schools have always absorbed a great many college graduates as teachers, but the high schools do not want specialists for teachers. The high schools are trying to work out a general education for their pupils, and the specialized teacher does not fit into the scheme. Of what value to a high school is a specialist in zoölogy when less than one per cent of high-school pupils study such a specialized subject?

The colleges blissfully have ignored this result of their specialization and foolishly have presumed that the high schools would continue to accept their graduates as teachers. But unless the colleges quickly assume an aggressive and intelligent leadership in the matter of preparing teachers for secondary schools, they will find their market gone. There are many areas in life which demand wise and intelligent occupants but do not need extensively trained ones. There also exists a considerable body of young people who can profit by a more extensive general education than is given in a junior college or in the first half of a senior college. Probably this body is not so large as we have assumed in the immediate past, but it does exist and to impress upon it the pattern of specialized scholarship is a mistake.

For our fourth point in this brief against intensive college specialization, let it be reiterated that the world needs people who can see life steadily and see it whole, more than it ever did before. Specialization has developed with the complexity of society, but it has been the study of parts instead of the whole to which specialists have devoted themselves. Bacon wrote in his Essay on Studies: "For expert men can execute, and perhaps judge of particulars, one by one; but the general counsels, and the plots and marshalling of affairs come best from those that are learned." Harold Laski emphasized the same point, declaring that the more expert one becomes, the narrower one's point of view necessarily grows. Certainly, the counsel of experts in economic and governmental affairs has been so varied and contradictory that it has proved of little value in the present crisis. Experts we must have, but in many of the more general affairs, the counsel of the wise is still to be preferred to that of the expert. How little specialization is of aid to many students in their contribution to life is well portrayed in the words of a student who speaks for a considerable group of young women.

> . . . It is apparent that there are in liberal-arts colleges girls who, although not destined to become great leaders because of superior intellectual qualities, nevertheless, will occupy important positions in society either in some necessary type of occupation or as wives and mothers. To fill such places acceptably and for the best interests of society, it is necessary that these women shall have a broad, disinterested view of life as a whole and a certain amount of appreciation for intellectual interests. However, it is not necessary that they become so specialized in a certain field that they appear to themselves, or, what is more to be regretted, to possible husbands, as peculiarly fitted and appointed for a great career only. . . . There seems much to be said for the influence upon society of lives which are neither deadened by an education which has no value for them, nor ignorant because they have had no chance for an education. Somewhere between the uneducated masses and those few keen intellects which shape the destinies of the future must come the unifying factor of simple and graceful, yet intelligent living.

So much for the argument against specialization. To be sure the colleges should keep open enough avenues for the development of special

talents and interests. Individuality on the part of college people is obviously desirable, even though the attempt to make all students in the image of scholarly specialists is not justifiable. But how shall a good liberal education be provided in case the pattern of specialization is abandoned or lessened? The restoration of an earlier and simpler pattern of curriculum would be absurd, and the mere reduction of courses would be equally ridiculous. Somehow the kernels of meaning must be extracted from the profusion of courses offered and fused into a smaller number of functional units. This is truly a Herculean labor. Against it are arrayed vested interests, departmental jealousies and ambitions, the tendency of university-trained teachers to make their students in their own image, the lack of suitable books in some fields, the inertia of passively resisting faculty members as well as the open and violent opposition of others, the lack of agreement upon a principle of synthesis, and, no doubt, many other excuses. But this must be done if the concept of a liberal education is to survive, and it should be the work of the liberal-arts college to do it. Let the colleges shoulder this task instead of trying vainly to compete with the university for the privilege of training specialists. In the salvaging of liberal education lies the greatest service of the college and its greatest hope for the future.

A New Plan

By C. O. WEBER

Two Suggestions for Improving College-Entrance Requirements

THE college Freshman appears to be the chief source of disquietude in the ferment of changes and experiments which characterize higher education of today. A survey of recent trends published by the National Society for the Study of Education shows that freshman testing is the chief storm center of change, comprising 104 cases out of a bewildering variety of changes amounting to 1,389 instances of change in all![1] No doubt the progressive colleges are the changing ones, but change does not mean inevitable progress. A new venture in education should be grounded on reasonable expectations of benefits. Despite the gradual loss in student registration during the depression the bulk of colleges have refused to alter admission requirements merely for the sake of repairing losses.

The conviction is growing, however, that admission requirements may be altered to suit a larger population of preparatory-school students without lowering the quality of subsequent college work. The following study suggests two changes in admission requirements which seem to give a reasonable expectation of opening the colleges to more students without weakening our present standards of selectivity.

The first change to be discussed concerns the traditional units required for college entrance, particularly as regards Latin and mathematics. It is suggested that the requirement of 5 units of languages, ancient or modern, will enable many more students to qualify for college entrance than does the present required division of 5 language units into usually 3 units of Latin or Greek and 2 units of modern languages. Second, it is proposed to change the requirement of 3 units of mathematics to a combination of 3 units of mathematics and science.

That these changes would enable more students to apply for college entrance is indicated by evidence that registration in high-school courses of ancient languages and mathematics is showing a relative decrease when compared with registration in modern languages and science. At least, these are the trends in New York state, and probably in other states as well. In the period from 1924 to 1932, considering both high schools and academies, the following trends appear. Courses in Greek show a loss of 34

[1] Boucher, C. S. "Current Changes and Experiments in Liberal-Arts Colleges," *Thirty-First Yearbook of the National Society for the Study of Education.* 1932. Part II, pp. 26–27.

per cent in registration, and Latin courses an increase of 24 per cent. French, by comparison, shows an increase of 77 per cent and German an increase of 177 per cent. Eight courses in mathematics show an increase of 44 per cent, and ten science courses show an average increase of 63 per cent. The differential trends thus disclosed in a period of eight years are considerable, and may be expected to become more and more pronounced. This changing accent on modern languages and science is more marked in the high schools than in the academies.[2]

THE increasing difficulty of requiring 3 units of Latin and mathematics is shown by the figures given in Table I. In the second column the total registration in first-year courses of various subjects for a period of four years, 1929 to 1932, inclusive, is given. In Columns 3, 4, and 5 are recorded the percentages of students who fail to continue with the second, third, or fourth years of a given subject. Thus, in the case of Latin, 22 per cent of the students taking Latin I do not continue with Latin II, and 62 per cent do not take Latin III. French, to be sure, shows equal losses. The fact remains, however, that the number of potential college matriculants would be increased by a willingness on the part of the college to accept either French or Latin. The losses in question cannot be explained as due entirely to withdrawals from school, for only 15 per cent of students withdraw from preparatory schools during the second year, about 25 per cent have withdrawn by the third year, and about 29 per cent for the fourth year. These losses have been constant since 1918. Even if one grants for the sake of argument that the losses in registration are wholly due to withdrawals from school, the fact still remains that decreases in registration for advanced courses are not equal for different subjects, and that more high-school students will be able to go to college if choices of entrance units are liberalized. The losses for successive courses of English are less than for languages. The total registrations in various courses must also be taken into account. Table I shows that the total registration for French exceeds the total registration for Latin, while the total registration in first-year English exceeds those for Latin and French taken together (*see* Column 2).

TABLE I

LOSS OF REGISTRATION FOR SUCCESSIVE YEARS IN CONSECUTIVE COURSES IN NEW YORK HIGH SCHOOLS AND ACADEMIES, 1929 TO 1932

SUBJECTS	NUMBER ENROLLED IN FIRST COURSE	PERCENTAGE OF LOSS		
		Second Course	Third Course	Fourth Course
(1)	(2)	(3)	(4)	(5)
Latin	236,844	22	62	87
French	315,219	25	61	94
English	717,666	24	40	54

Losses of registration are the most marked of all for successive courses of mathematics. About 64 per cent of students taking elementary algebra

[2] These figures and Table I are based on the *Twenty-Ninth Annual Report of the Education Department*, published by the University of the State of New York, 1934, Vol. II, pp. 261–67.

fail to take intermediate algebra, and 92 per cent of the students of plane geometry fail to continue with solid geometry. The corresponding figures for the sciences cannot be given, for the courses in physics, chemistry, biology, and the like are non-successive. Registration in history courses is also constant, perhaps because it is not customary to make one history course prerequisite to another.

WE MUST not forget for a moment, however, that "the liberal colleges do not rely upon the doctrine of success by quantity."[3] The important question remains whether the changes proposed would lower the quality of college matriculants. The requirement of languages for college entrance can hardly be challenged. To psychologists, at least, languages are outstanding in the high agreement which they show with ability as measured by other standards; and ability in Latin has sometimes turned out to be the most indicative of ability in general. The superiority of verbal over non-verbal test items is widely known in psychometry. It is a question, however, whether modern languages are much inferior to ancient languages in this respect. The writer sought to determine this question in the case of matriculants to Wells College. The Plan-B candidates of 1932 to 1934, inclusively, served as case material in a study of the agreement between entrance scores on various tests and the quality of the work done in college. It is generally agreed that scores of the College Entrance Board examinations are more diagnostic of ability than high-school marks are. This is to be expected if for no other reason than the fact that preparatory marks vary from school to school and from teacher to teacher, whereas the College Entrance scores are univocal and standardized. The writer prepared correlations between these scores in science (physics, chemistry, biology), French (Cp. 2, 3, 4), Latin (Cp. 3, A, C) and other measures of ability. In Table II are shown the correlations of the marks on the College Entrance Board examination with the verbal scores and the mathematical scores on the Scholastic Aptitude Test, the scores on the American Council of Education Psychological Examination, and average Wells marks. The Wells marks used were average marks in all subjects for one or two years, excepting those in speech, hygiene, and physical education.

The agreements between the College Entrance Board scores and the Wells marks are of special interest. It will be noted in Column 5 that ability in Latin and in French as measured by the Entrance Board tests show the best agreement with ability in college courses, but the difference between them in this respect is negligible. Science, on the other hand, shows much better agreement with college work than does mathematics. Column 6 shows the average of the correlation coefficients which a certain set of College Entrance scores gives with all criteria. This column suggests that science scores are the most diagnostic, that mathematics scores

[3] Kelly, R. L. "The Future of the Liberal-Arts College," *Transactions and Proceedings of the National Association of State Universities.* 1930. p. 116.

are the poorest, and that Latin and French are equal. Surely there is agreement between the amount of high-school work in a given field and the scores of the Entrance Board test which measures ability in that field. Surely, matriculants choose the College Entrance Board examinations which they are best prepared to take. The average correlations suggest that students prepared to take Latin and French examinations are equally prepared to do the work of Wells College, while students prepared to take the science examinations are still better prepared for the work of the college.

Units of English and history are commonly required for college entrance. Our study gives the correlations between Entrance Board scores in these subjects and college marks as exceedingly low. For the year 1932–33, the scores in history (European, English, and American) gave a correlation coefficient of only .18 with college marks. English, which leads other subjects in the number of units required for admission, gives a corresponding correlation of only .08. It should be noted, however, that English, and perhaps history as well, are fields where it is difficult to achieve quantitative measures of ability. On this ground, the low coefficients of correlation secured are a consequence of the unreliability of College Entrance Board scores in English and history. Indeed, the committee in charge of the English examination is aware of this fact, and has been giving attention to new techniques for scoring this test. Improvements are definitely assured. In 1931, the Comprehensive English Examination ranked third as a basis for gauging the work of the college student, whether in college English or in other subjects, being exceeded in diagnostic value by the Scholastic Aptitude Test and school records.[4] The change in reading procedure introduced in 1933 has placed the Comprehensive English Examination in a leading position as shown by studies in three colleges, Mount Holyoke, Vassar, and Wellesley.[5]

TABLE II

INTERCORRELATIONS OF SCORES ON COLLEGE ENTRANCE BOARD EXAMINATIONS OF THE PLAN-B CANDIDATES OF WELLS COLLEGE, 1932, 1933, AND 1934

College Entrance Board Examinations	Coefficients of Correlations with:				Average Correlation
	Scholastic Aptitude Tests		Psychological Examination	Wells Marks	
	Verbal	Mathematical			
(1)	(2)	(3)	(4)	(5)	(6)
Science	.39	.26	.41	.51	.39
French	.36	.24	.20	.61	.35
Latin	.26	.24	.29	.62	.35
Mathematics	.24	.53	.26	.31	.34

[4] Thomas, Charles Swaine. *Examining the Examination in English.* Cambridge, Massachusetts: Harvard University Press, 1931. pp. 179–80.

[5] *A Second Study of the Comprehensive Examination in English*, January, 1935.

The correlations in our study are rendered uncertain by the fewness of the cases (ranging from 19 to 80), but the correlations tend to be several times the size of their respective probable errors. Science, for instance, showing an average correlation of .39 for all criteria, gives an average probable error of .07. The average correlation is thus over five times the probable errors of the correlations. Although the Entrance Board scores used for any given correlation are few, this is compensated for by the fact that each set of scores is checked against four other criteria.

The essentials of the two changes discussed here have been adopted recently by Mount Holyoke and Smith College. Smith College recommends 3 or 2 units of Latin, Greek, or German, and 2 or 3 units of French, Italian, or Spanish. Three units of mathematics and science are recommended as a normal program. Beginning in 1935, Mount Holyoke will require 5 units of French, German, Greek, or Latin. Two units of mathematics will be accepted, but 3 units are recommended. Other colleges making more or less liberal changes than the ones just described are Rollins, Amherst, Wheaton, and Princeton.

THE remaining proposal to be discussed concerns the newly launched admission plan known as "Plan D." It has, in the opinion of the writer, given preliminary signs of worth, but there is one respect in which it could be made more elastic and at the same time more rigidly selective. The writer advances the suggestion that such an improvement may be accomplished by using the scores of the Scholastic Aptitude Test as an alternative to the so-called "upper-seventh rule." Plan D, as stated in most catalogues, does require the Scholastic Aptitude Test. It is suggested that colleges require a score of at least *B* in one section of it (verbal or mathematical) and a score of at least *C* in the remaining section. The writer made the experiment of comparing the students who entered Wells College under Plan D in 1933 and 1934 with the students who might have entered under the proposed criteria of *B* and *C* scores on the Scholastic Aptitude Test. The number that actually entered under Plan D in the two years was 34, and the number that could have entered under the new arrangement is 33. The two groups thus isolated, were compared as regards average scores earned on the National Council of Education Intelligence Test, the two sections of the Scholastic Aptitude Test, and average college marks. In the interests of comprehensiveness, the corresponding averages of students entering under Plans B (76 cases) and C (10 cases) were also computed.

Table III gives the average scores earned by students entering under the four plans. If we rank the groups on each criterion, we shall find that the cases making up the "new plan D," as we may call the writer's proposal, rank the highest on every criterion. This would tend to be the case for scores on the Scholastic Aptitude Test since the new cases were selected for Plan D on the basis of these scores. None the less, it is

remarkable that the cases listed under new Plan D should average 98 points higher than students entering under Plans B and D, on the basis of the Aptitude Test. That scores of this test should be more selective than the "upper-seventh rule" is indeed to be expected. It should seem obvious that students comprising the upper-seventh in various schools are by no means equal, in view of the fact that the better schools tend to give lower marks than do poorer schools. When the maximum size of the class is 7 students, the factor of chance introduced is large. The success which Plan D has attained is perhaps due much more to requirements of this plan other than the upper-seventh rule. Since Plan D in its present form appears to be fairly successful, however, it would be wiser to use scores of the Scholastic Aptitude Test in conjunction with or as an alternative of the upper-seventh rule.

The difficulty in the way of making the suggested use of the scores on the Scholastic Aptitude Test is due to the fact that most candidates take this test so late that effective use cannot be made of it. A possible solution of this problem would be to require this test during the high-school junior year. Studies made at the Princeton laboratory show that on the verbal section of the test, Juniors earn an average of 20 points less than do Seniors, and there is a high correlation between scores one year apart.[6] The average increment of growth in the mathematical section of the test is insignificant, and scores one year apart are much more variable. It is therefore suggested that the following combinations of scores be accepted from Juniors as alternative to the upper-seventh rule:

1. A score of 430 or more on the verbal section and a score of 550 or more on

[6] Taken from a letter of Cecil R. Brolyer.

TABLE III

A Comparison of the Abilities of Candidates Selected by Plans B, C, D, and a Modification of Plan D

Year	Plan B	Plan C	Plan D	New D
(1)	(2)	(3)	(4)	(5)
American Council of Education Psychological Examination—				
1933	203	.....	210	254
1934	230	243	213	260
Scholastic Aptitude Test, Verbal—				
1933	487	.....	487	567
1934	470	474	480	568
Scholastic Aptitude Test, Mathematics—				
1933	452	460	448	570
1934	451	468	416	530
Wells Marks—				
1933	75	.....	78	81

the mathematical section of Scholastic Aptitude Test.

2. A score of 530 or more on the verbal section and a score of 450 or more on the mathematical section of the test.

The minimum scores of 430 and 530 on the verbal section of the test are suggested on the assumption that a year would bring an increment of 20 points, making the scores 450 or 550, that is, *C* or *B*. Since the increment in the mathematical score is small and unreliable, these scores are left at the *C* and *B* levels.

Mr. Brolyer informs me that in 1931, 25 per cent of senior girls earned scores of *B* or better on the verbal and *C* or better on the mathematical portion of the test. During the same period, 19 per cent of the girls satisfied the requirement of *B* or better on the mathematical section and *C* or better on the verbal section of the test. These facts give the assurance that more students can meet the suggested requirements on the Scholastic Aptitude Test than is the case with the upper-seventh rule, which is satisfied by only 14 per cent of the students.

Toward Free and Efficient Liberal Colleges

By DAVID SNEDDEN

What Really Functional Educations Can Liberal Colleges Provide?

CAREFUL readers of recently published books and articles on higher education must be aware that problems of the expected values or functionings of liberal-college education seldom receive realistic, as distinct from aspirational and romantic, consideration. The highly idealized utterances of college presidents and prominent alumni contain numberless allusions to such vaguely conceived objectives as scholarship, leadership, citizenship, and others of similar scope and elasticity; but it is a rare thing to find among such ambitious philosophizings any clearly defined conceptions of the several greatly unlike classes of objectives of purposive educations for present-day civilized living and work. And it is especially difficult to find in these papers any useful indication of what should *not* be included among the aspired-after purposes of liberal, as distinguished from vocational, colleges.

It is designed in this article to continue the sociological analyses of the respective optimum functions of liberal and vocational colleges, attempted in an earlier paper by the present writer.[1] What are in effect four theses will be presented here in attempts to discriminate and define what should be the foundations for the most profitable two-year and four-year curriculums of genuinely liberal colleges in the educational scheme.

Chancellor Capen in the Introduction to Kelly's *The American Arts College*, said: "Nevertheless in spite of its vitality, and not at all because of the criticisms that have been leveled at it, the dominating position of the [arts] college in the American educational scheme is now threatened by irresistible social forces."[2] He was undoubtedly right in alleging that the historic institution which in this paper will be called the "liberal college" was and is threatened; but he was probably wrong in his diagnosis of the causes. Contrary to his assertions, the liberal college has not been, in the estimation of the present writer, the victim of the "irresistible social forces" which he enumerates—the forces expressed in the growing specialization of organized society, the demands that multiplying numbers shall possess the essentials of the

[1] "Some Anticipations," JOURNAL OF HIGHER EDUCATION, IV (October, 1933), pp. 347–52.

[2] Kelly, Frederick James. *The American Arts College*. New York: Macmillan Company, 1925. p. vii.

increasing store of human knowledge, the lengthening period of tutelage, and the pressure for earlier entrance upon economic careers. Rather the failure of liberal colleges, especially in recent decades, to fulfill their proper and distinctive functions in American society has been due to the inability of educational leaders realistically to discriminate, define, and provide adequate implementation for such functions. The genuine functions of liberal educations, whether of school or college level, are undoubtedly far removed in quality and content from those of the multiplying species of purposed vocational learnings which naturally loom large in the imaginations of young men and young women of college age, as well as in the minds of their parents and prospective employers.

But, in the light of even such meager critical analyses of the functionings and values of learnings and of serviceable objectives to be set for institutional training and instructional processes as we yet possess, it is evident that the great majority of the educators of recent years who have been responsible for the determination of policies for our liberal colleges have themselves had no clear or adequate conceptions of either the socially distinctive functions of such institutions or of the effective means and methods of realizing them.

IN ATTEMPTING sociological approaches to realistic determinations of what should be optimum educational functions for liberal colleges, full weight should be given at the outset to the fact that the great majority of Americans have always been incorrigible romantics in their appreciations of both the expected functions and the actual operations of those institutions. They have always seen college students (and especially their sports and clothes and love affairs), college professors and, above all, college graduates, either through rose-colored glasses of charming illusion or through yellowed glasses of bilious disillusionment.

Doubtless, something like one-third of the graduates, as well as not a few "graduates by request," of American liberal colleges have always "made good" in later life to exceptional degrees—in some one of the senses dear to American imaginations. And if the public, reasoning according to the simple principle of *post hoc ergo propter hoc*, ascribes such success to college social life and to college training, should we expect professors, themselves educational romantics to a high degree, to be able or disposed to disillusion that public of such estimations?

Perhaps we now also are inclined to exaggerate romantically the significance of the "dominating position" which the liberal college is alleged to have once held in the American educational scheme. But certainly no well-informed student of present-day American culture and political citizenship can doubt that more than ever in its history this country needs the services of a system of liberal colleges which, unlike the thousand undergraduate colleges now supposedly filling that rôle, shall be both free and efficient.

But, free from what? Free from two kinds of unlike conditions which now not only cramp their usefulness,

but in large measure impede and stifle all serious attempts to effect really functional reconstructions. These two conditions are, first, excessive preoccupation with prevocational services, which in effect tend to make of liberal colleges only glorified preparatory agencies for professional colleges and for business careers; and, second, at the other extreme, excessive devotion of subject-matter specialists to unrealistic ideals of what must prove for ninety-nine per cent of undergraduates inert and non-functional scholarship.

And again, efficient for what? Efficient for two major and, in large measure, functionally and instrumentally quite unlike purposes: personal cultures in terms of appreciations rather than performance powers, and political citizenship in terms of kinetic performance powers rather than conformist appreciations.

It will be noted that four considerably distinct theses are implied in the foregoing assertions. Let us, as a means of initiating hoped-for critical discussion, subject them to brief analyses.

IN THE article referred to in the first part of this paper, the present writer contended that present-day American universities tend increasingly to become, as they properly should, simply aggregations or federations embracing one or more liberal colleges with multiplying numbers of professional colleges and of quasi-professional institutes. It was furthermore stated, as the belief of the writer, that during the next half-century the number of professional (vocational) colleges in all larger universities might easily increase, by subdivision or outright addition, to several times their present number.

Paralleling this multiplication of vocational colleges during recent decades there has been a variety of pressures expressed, both in students' demands and faculties' plannings, to integrate undergraduate courses and even curriculums with prospective graduate courses having professional training or quasi-vocational research objectives. The effects of these tendencies, coupled with the vague but influential demands of business employment into which large proportions of the non-professional students were expected eventually to fit, it was contended, have been increasingly to induce both undergraduate students and policy-makers of undergraduate curriculums to think of liberal-college or arts-and-science curriculums chiefly in terms of vaguely defined vocational or pre-vocational "background" objectives. The resulting distortions and equivocal valuations of undergraduate courses in mathematics, chemistry, biology, French, economics, English composition, and some other subject-matter departments are certainly now familiar to the majority of college instructors who have some appreciation of the actual, rather than the wishfully imagined, functionings of learnings.

The American liberal college may seem, then, to have been forced by students, parents, professional college faculties, and potential future employers of graduates, to accept responsibilities for various forms of "vocationalized" education which in

the very nature of the case it could produce only in shadowy and usually sham forms. But actually large proportions of college faculties have been so vague in their own minds as to the really functional possibilities of traditional courses, on the one hand, and experimentally devised new courses, on the other, that they, themselves, could easily be induced to cherish the illusions as to "practical" educations which have in recent years so threatened the position of the liberal college, as Chancellor Capen seems to think.

On the other hand, the writer is convinced that faculties have been, themselves, chiefly responsible for the second great handicap from which it is believed that the liberal college is now suffering. This handicap derives from illusory valuations of "scholarship" as a highly valuable end in itself—the various kinds and degrees of scholarship previously referred to as "inert" or "non-functional."

SCHOLARSHIP as an abstract ideal, not functionally related in demonstrable ways to particular kinds of success in present play life, or later in vocational, civic, cultural, or other work life, has always been a difficult objective to be realized on the part of undergraduates, and never more so than in recent years. Perhaps their instincts and campus traditions in the matter have been sounder than the professors realized. But as a now antiquated ideal, scholarship as an end in itself must be recognized as almost barren and smelling of medieval monasticism. At the same time, scholarship, as embracing clearly perceived *means* to well-defined and realistically evaluated functionings, whether in the vocational or the other areas of the later "efficient lives" to be lived by students, is far from being a barren ideal. This is clearly evident in the several channels of activity of those abler students who attend vocational colleges or who have finally found life interests in what are for them quasi-vocational institutes of research.

Unfortunately, a serious amplification or modification of the myth of the values of scholarship, abstractly considered, has been in process of development within the last two or three decades. This is usually referred to as "creative scholarship," to be realized in and through graduate schools. In the minds of large proportions of the subject-matter specialists, undergraduate liberal-college courses seem to be valued chiefly as preparatory stages to creative scholarship later to be pursued in graduate departments.

But graduate schools or departments now operate in large measure simply as preparatory agencies either for prospective college teachers or for institutes of research, which are increasingly becoming quasi-vocational both in purpose and in personnel. Those rare recipients of Masters' or Doctors' degrees who are fortunate enough to be keenly interested in fields of science and art, which are still in early and pioneering stages of evolution, can occasionally still find opportunities to do genuinely creative work or to make original contributions while teaching eight to twenty periods a week. But these

opportunities presently disappear in proportion as such fields become well developed; after that, only professionalized researchers or artists can effectively contribute to the ends of really creative scholarship. Hence, to think of graduate schools or their preparatory liberal colleges as having for the future highly significant rôles in areas of creative scholarship is probably to cherish one more of the illusions in which the areas of higher education (except the strictly professional) are still so prolific. The liberal college needs, then, to be freed from the cramping conditions imposed, in effect, by both the pre-professional requirements of the vocational colleges and by the traditional ideals of non-functional scholarship of the subject-matter specialists who at present so largely dominate our college faculties.

But to become genuinely efficient in serving present-day needs for higher liberal—that is, non-vocational—education, American undergraduate colleges need something more than the freedom suggested before. They need above all to orient themselves functionally; that is, they must be able to discover and delimit the useful functions which under their favoring conditions, as well as necessary limitations, they can serve in the personal and corporate lives of the American people.

In other words, functional approaches, first to determinations of educational values, then to scientific description and definition of feasible learning objectives, and finally to the construction of curriculums and courses are urgently needed. What are here called "functional approaches" evidently have been successfully employed for some decades in the determination of objectives and the construction of courses for our more successful vocational colleges. But it is here contended that thus far they have been given hardly the shadow of a fair and sustained trial in formulating objectives or devising scholastic offerings for the several kinds of non-vocational educations which it should be the primary mission of liberal colleges to provide.

What are the functions which these non-vocational educations can serve in the lives of adult Americans from twenty-five to seventy years of age into which our highly advantaged liberal-college students mature? These can best be brought into relief by analyzing what figuratively may be designated the several "careers" of most normal adults under the complex conditions produced by what Spengler rather happily calls our "megalopolitan" civilization.

THESE careers can for the present be differentiated conveniently into seven classes; namely, the vocational, the family-rearing, the civistic, the religious, the health-conserving, the personal-culture-enhancing, and the pleasure-seeking. Space is not available here to describe either the "core contents" of these careers as realized by our more wholesome and socially effective citizens, or the numerous more or less pathological cases in which painful disharmonies are often allowed to develop among them.

It must be insisted, however, that realistic sociological analysis of the

lives of large proportions of the mature men and women with which the readers of these pages are familiar will provide much evidence to support these contentions: first, that under present conditions of civilized living, and especially of urban living, adequate pursuit of the seven careers listed tends largely to differentiate and even to specialize the allocations of time, effort, income, and even personal associations which each person must make; second, that under the pressure of intense preoccupation with one or several of these careers, pursuit of the others may be neglected for long periods, but almost invariably with pathological consequences to personality and to society; and third, that effective preparations for entry upon life-long pursuit of these careers not only give us really functional foundations for all precollege school educations, but should and can give us the foundations of values and objectives for liberal-college non-vocational educations as well.

It will be alleged, of course, that liberal colleges have, in fact, always had in view as objectives the learnings which should contribute to the more adequate pursuit throughout adult years of at least the cultural and civistic careers as just suggested. And it will be contended also that the favored men and women who have shown abilities sufficient to secure admission to colleges have in large numbers of cases become both the most cultured and also the most politically public-spirited members of American society.

But these contentions, it must be feared, are largely rationalizations. Both of them as yet rest excessively on good-natured wishes and slowly accrued faiths. The voluminous literature of higher education shows almost no evidence that either one of them has been critically examined according to even the meager standards of scientific analysis and of provisional evaluation which are now available.

In support of this conclusion, let us refer to only one condition still widely prevalent in liberal-college curriculums; namely, the absence of clearly based distinctions between courses designed, on the one hand, to function towards producing superior qualities of political citizenship, and those, on the other hand, which should be followed primarily for the sake of laying foundations for lifelong growths in personal cultures. Failures to discriminate in present-day college curriculums such unlike objectives are nearly on a par with earlier failures to discriminate vocational from non-vocational objectives in such areas of studies as mathematics, chemistry, French, and economics.

OF THE six non-vocational types of careers provisionally differentiated here it is evident that the two designated as the civistic and the cultural have for many years held, as suggested, prominent places among the vaguely avowed sources of the objectives of liberal-college educations. But to implement such objectives effectively we now need realistic analyses of the conditions and modes of best self-education in personal culture and of political-membership behaviors, as these operate in the lives of the most approved thirty per

cent of Americans twenty-five to seventy years of age.

The easily available inheritance sources of personal cultures obviously multiply according to geometric ratios in our generation in each and all of such fields of potential intellectual and esthetic cultural interests as literature, history, mathematics, plastic arts, music, nature and travel, the social sciences, mental sciences, and even philosophy. The key principle to guide standards of learnings in these many fields for purposes of personal culture should probably be found in the term "superior appreciations" rather than in concepts of scholarships as these are ordinarily understood. But in most undergraduate classrooms antiquated doctrines of mental discipline and scholarly mastery still obstruct nearly all approaches to pedagogical comprehensions of appreciations as objectives of teaching.

Functional means and methods of educating for the more influential kinds of later political-membership behaviors, which should reasonably be expected from the exceptionally endowed and environmentally favored personalities who share in liberal-college advantages, may well prove even harder to discover and adapt than those for superior cultural educations. Nowhere in college programs can be found studies with implied objectives based on recognition of the two basically unlike types of civic behaviors to be expected of prominent co-operating citizens in a democracy, namely, conformist civic behaviors and kinetic civic behaviors. Most of America's college graduates doubtless find it easy enough to serve their country as decent conforming citizens. But what small proportions of them as yet choose to function, or possess the abilities to function efficiently, in the exercise of the kinetic virtues of our more complex political co-operations! In extenuation of their faults, however, can it not be said that in general neither their high schools nor colleges have educated them for such functionings in any clearly defined and purposive ways?

Student Health Work

By WARREN E. FORSYTHE

Clinical Medical Service for College Students

STUDENT health work was inaugurated at Amherst College in 1859 by the creation of a department of physical education and hygiene. At that time President Stearns indicated objectives and activities which might serve college administrators as guides today. The early reports of their work, as developed by Dr. Edward Hitchcock, have been both interesting and useful.[1] In a great variety of ways school hygiene has been extended widely at all school levels. The American Student Health Association lists over one hundred member departments in colleges interested in student health work. Many papers and reports on college hygiene have appeared, and a national conference held in New York in 1931 issued a comprehensive report on this question.

The term "college hygiene" embraces the problems of health instruction, attention to the student's environment including food service, clinical medical service to a variable extent, and frequently physical-education activities. All college administrators probably agree that hygiene instruction at the upper level is a concern of the college, but there is probably more difference of opinion as to the responsibility of the college for the sanitation of the student's environment and for his clinical medical service.

Since most colleges have established some student medical service under college control, probably no college disclaims all responsibility for the health protection and health recovery of its students. The name health service is commonly used to designate a department most concerned with clinical medical attention. These clinical services have often been supported in part, at least, by portions of annual tuitions collected from all students, and such departments usually develop rapidly without any very clear definition of their relation to college objectives. The operation of these clinics has been criticized by certain organizations of the medical profession, because of curative or treatment features carried on. Activities which are generally recognized as educational or preventive in nature are less subject to such criticism. This situation need not be particularly embarrassing because the college should be most interested in developing preventive and educational aspects. The college should

[1]Hitchcock, Edward. "Hygiene at Amherst College," an address read before the American Public Health Association, Chicago, September 26, 1877.

do no more of the curative and remedial medical work than is practically forced upon it. The college may not wish to assume the responsibility for care of the sick student, but the necessities of the situation have often forced it to maintain fairly complete clinical services under its control. The following conditions appeal to the writer as basic requirements of the college to the extent that they cannot be realized otherwise.

COLLEGE students should have the experience of learning by actual use and demonstration, proper methods of procedure in the scientific handling of illness and personal health. The college has certain responsibilities of custody. Parents need assurance that students will be properly cared for in illness, and in tax-supported colleges, at least, the state needs assurance that investments in these highly selected young people will have the protection of proper attention to their illness and health. The best prevention of much serious illness is early attention to beginning processes, which should be available to students with the least possible hindrance. Much new light concerning health must come from the study of illness, and our colleges should use every opportunity to acquire such new facts. The organization of medical resources for their most efficient service to the public also needs such study. Until society makes better provision on the financial side for the training of worthy students, the disastrous element of expense in illness should not be allowed to stop the educational experience of students who have small financial resources. The best method of meeting these necessary conditions has yet to be determined, but it seems necessary for many of our colleges to arrange easily available, high-standard, clinical service under their control upon some basis of distributed cost, which will not be burdensome to the student.

An unfortunate accident which occurred in 1912 involved a popular student at the University of Michigan, and about the same year the president was called by a parent to recommend an undertaker for a deceased student of whom he knew nothing. These incidents probably hastened action, then pending, relative to the establishment of a university infirmary. In the fall of 1913, a unit was opened which soon became the University Health Service. The department began in a small way with three full-time physicians, a nurse, and a secretary to serve six thousand students under a broad and generous, but not clearly defined policy.

Considerable unsustained effort was directed along recognized lines of informal education, but the staff was soon overloaded with purely clinical work which has characterized its operation since. The annual budget obtained from students' fees has increased with the growing demands for high-class medical service—from $10,000 to $120,000—and the staff now has the equivalent of forty full-time people; enrollment has increased only about 50 per cent. The annual student health fee was gradually increased from $2 to $15; this provides a most generous and practically self-supporting medical service, such as is known

to the writer for no other group of people. The unlimited office service includes specialists, X-ray, laboratory, and drugs. The specialists include mental hygiene, physiotherapy, and allergy. Bed care is extended to thirty days with medical and surgical service. Although impossible to measure, the health benefits which have come to upwards of a hundred thousand students during these twenty years must be very great.

The department seems to be well recognized and established as a necessary unit of student service in the University. The future of the department seems to lie in the direction of health education broadly defined; the strictly clinical service should be released as a university function if ever the conditions previously listed can be satisfactorily assured through other agencies.

MANY statistical data are available based upon twenty years' experience in this department. Conclusions from this experience, methods of procedure, and some personal judgments are given for selected features of such programs.

The medical, physical, or health examination of new students has been a general practice at all colleges. Danger to others and possible harmful effects of the college program upon the applicant have been the usual reasons for these examinations. Emphasis was placed later upon the opportunities provided by the health examination for positive constructive service to the student; we find this much the more important reason for examining new students. Almost from the first these examinations have been done here during registration week by an enlarged staff operating as specialists by the station-to-station plan. They have been followed up as findings indicated for each student. The heavy clinical demands upon the staff and the requirements of the college program have prevented the prolonged method whereby each student would be examined completely by one physician with better personal relationship but without the advantage of the specialized attention derived from the present system. For a year or two examination by the family physician was urged. It resulted in compliance of about sixty per cent, but it gave less uniform data and was not continued because of needed additional anthropometric data required here. Some things favor the family physician's assistance as part of the good entrance health examination. Without a state law a University requirement of protection against small pox has resulted in our having few unprotected students and practically no small pox.

Increasing attention to personality is being included in these entrance health histories and examinations which become the basis of constructive health work for students. The records supply an abundance of data for research, and they help in deciding questions of later attention to specific illness.

The health evaluation of entering students is, of course, relative and difficult to state. Ratings of about seventy-five per cent are given for good health appearance, health weight, good teeth, not obviously vulnerable personality, good vision, all live teeth,

freedom from nervousness, and freedom from previous infection with tuberculosis. About three per thousand are refused continued residence because of active tuberculosis of the lungs, but seldom is admission refused for other reasons. Hernia, organic heart disease, hemorrhoids, and sugar in urine are defects which are found for about one per cent of entering students. One-third are found to be sensitized to foreign protein. About 50 per cent have had tonsils removed, and previous attacks of appendicitis are listed for about one in ten. About 15 per cent are unvaccinated, and one-half of the girls have difficulty with menstruation.

THE modern public-health program has accepted the annual health examination as a basic element in its program. The extent and the success of this project in the general population has probably been all that could reasonably be expected. It has had considerable emphasis in some college clinics, and was required of all students here during a five-year period. It was given up as a requirement because of lack of staff and facilities to meet a heavy demand for clinic service and still do justice to the required examination. Also, the careful entrance examination and accessible clinic brought to light most of the readily detectable physical defects. Since those years the annual check-up has been promoted as a voluntary or incidental project, and it appears to be gaining as a student-requested service. In the writer's judgment, it is time for colleges seriously to require that each student clear annually with a department which can make a careful examination of his physical and emotional status; upon this determination continued residence would depend. Based upon the study of about four hundred students, with this in mind, one would say that something might well be required of 25 per cent before they would be passed.

Our students gain an average of five to ten pounds during their first year. On the basis of judgments of students and physicians about 5 per cent have worse health after college entrance, and 35 per cent have improved health. About 50 per cent have X-ray examinations of their lungs during four years here, and 25 per cent of upper-class students are so examined annually. Albumin in the urine is found much less frequently after the entrance examination. A high standard of follow-up assures a large percentage of correction of or attention to defects found in entering students. This varies with several conditions—economics, persistence in securing contacts, personality of medical advisor, education, and the like. The periodic health examination and its service are judged to be an important next step for colleges as a procedure to be required of all students in meeting the obligation for a program of modern education, which is broadly conceived.

An important question in this work is concerned with the nature and amount of student illness. Since the work at Michigan has been outstanding in the provision of care of illness its data are regarded as highly reliable

indexes of sickness needs in a student population. Data are available here for studies of the trends of diseases and sickness. Average recent annual rates of a few items per one thousand students enrolled are given for regular winter sessions.

Eight hundred eighty-five per thousand become patients for some service; two hundred thirty are hospitalized; a hundred sixty room calls are made; nine have major general anaesthetic operations; thirty have tonsil or nose operations; three develop active tuberculosis; eleven have acute appendicitis; fifteen hundred mental-hygiene interviews are given; and about one thousand diagnoses of acute upper respiratory infections are made. Sixteen hundred special prescriptions are filled, four hundred fifty X-ray examinations, and fifteen hundred laboratory determinations are made. One death occurs for each two thousand. Complete eye refractions are done for 15 per cent annually, and glasses are supplied at low cost. Rates do not vary significantly with the sexes.

A study of several five- to ten-year annual averages indicate that upperclassmen make about the same use of the health-service facilities as Freshmen. They have about the same number of colds, but tuberculosis tends to increase with age.

Contagious diseases have been of minor importance here, and the venereal infections probably do not exceed one per hundred students. Colds, injuries, and local infections are the most frequent types of illness. Hospitalization averages six days per patient. Frequent dispensary calls for trivial complaints do not present a difficult problem since they give contacts for more worth-while services.

This very complete service is supplied at an average net expenditure of about $16.50 per student enrolled in regular sessions. It should be possible to approximate that figure elsewhere with an enrollment of eight to ten thousand. This amounts to less than one-half the estimated cost of such service at regular private medical practice rates. Salaries and wages make up 70 per cent of the amount; hospital service amounts to 15 per cent; supplies and equipment, 9 per cent; and building overhead, 6 per cent.

The average dispensary visit cost is about $1; this includes attention of all specialists, drugs, supplies, dressings, and administration. It does not cover X-ray examinations. Infirmary costs per patient day amount to $3.50 without special nursing. Entrance health examinations average less than $1 each, and X-ray examinations average about $1.80 per condition studied.

THE good resulting from such work should be subject to appraisal. Much as this has been sought, valid indexes are still desired. Death rates for our students are lower now than before our department was organized; so are they in the general population. Deaths for the same age-group in the general population are six to eight times as frequent as in our group, but mortality is not a good measure of student health work. Twenty-five per cent of our diagnoses are for acute respiratory infections, and we have little

reason to expect that we have done more than prevent complications of these. School absence because of illness is a reliable index only under well-controlled circumstances, which have not existed here. Personal opinion of relative conditions and the observation of fewer consequences known to follow neglect give our best assurance that our clinical work is preventing and reducing illness.

To say that our service has met with no criticism from students would be difficult to believe. To those who have managed a student clinic, or have attempted to please other groups of society by an honest scientific practice of medicine that would be incredible. Criticism, however, here is almost minimal. At least, there are constantly increasing demands for attention in the department. A student questionnaire study and a critical medical-school faculty investigation were gratifying to the administrators of this service. We have yet to determine the amount of medical service which should be regarded as adequate for a student population.

EIGHT general physicians devote full time to this work and an equal number represent part-time specialties. The general physicians act as medical advisers for particular groups, and thus the student has the same medical adviser for four years and derives the benefits of increasing personal acquaintance with a particular physician.

What we regard as a full-time physician devotes six to eight hours daily in the dispensary, looks after other duties, and receives about $4,000 on a twelve-month basis. Our part-time service has been based upon two hours daily, at a rate of $75 per month. In general dispensary work, each physician averages six to eight patients per hour, and a recent study showed that patients waited for an average of twelve minutes before seeing their physician. For special service not provided by our staff, patients may be referred to the various clinics at the University Hospital, where they are generally seen by head men, without expense to the student.

Excuses for class absence have been no particular problem for the department since it was never authorized to do more than issue statements of facts, of which there was record. Passing upon all readmissions to class exercises by the health unit has theoretical value, but it has never seemed worth a trial here.

An earlier period witnessed considerable volunteer attention to health in our colleges, by faculty committees, almost wholly concerned with environmental questions. Little sustained work has been done by such committees. The inspection of campus swimming pools regularly, food establishments and campus buildings occasionally, has been about all that has been done here except as special situations required more. We find little of general sanitation that requires urgent attention.

A program of sanitation control proposed in 1918, to care for features not included in the standards of our fairly well-administered small city, was not approved as an activity of our department. For about one year,

a program enlisting members of student houses as health-service representatives, was carried out. The scheme died of an overdose of technical lectures.

FROM its beginning the department has had the assistance of the Department of Psychiatry of the Medical School for recognized problem cases. During the past six years staff personnel has been developed for this newer and important activity. One full-time and one part-time psychiatrist are assisted by two full-time and two part-time trained workers in handling problem cases. There has been no lack of cases; nearly one half of these are now self-initiated contacts.

As part of the entrance health examination new students are given an evaluation of personality based upon a short interview and items of past history. This has proved to be of value in the selection of persons needing assistance. The problems of mental hygiene have been handled here by a gradually developed program of attention to individuals often treated as persons are dealt with in social case work. Methods applicable to groups of students have found little if any value here. The answer to this problem in the college seems to be the extension of necessary training to a sufficient number of college personnel or student-welfare advisers to contact large numbers of students individually. For many of the situations encountered highly professional service is not needed.

About 6 per cent of our students become patients in this unit—over twenty-three hundred in four years. There is an average of eight interviews with, and ten interviews concerning each patient. In the study of five hundred patients in this unit nothing was outstanding so far as sex, physical health, college department, or intellectual ratings were concerned. In nearly one-half of these patients the problem was a maladjustment of a not significantly clinical nature; over one-third had psychoneurotic situations; and in 2 per cent there was psychosis. About one-fourth of the situations were not severe but disabling and amenable to help. Six per cent presented suicidal indications. In 22 per cent the situation was frankly acute and urgent, and 75 per cent were disposed of in the first year of treatment. Of the 70 per cent of situations which were possible to treat, 85 per cent were terminated satisfactorily—an extremely good result. These patients carried on satisfactorily also with reference to college social adjustment, academic record, and extra-curricular participation. The most basic situations which brought students for this attention may be listed in order of frequency as excitability and tensioned response, worry over school work, poor orientation, instability and over-impulsiveness, physical disturbances and residual states, oversensitivity, and immaturity. This interest certainly is proving to be a most constructive and important health contribution to the program of higher education.

The wide scope of this clinical service is more clearly indicated by the attention given to testing students

for possible sensitivity to foreign substances. Upon the information from the entrance-examination history students are classified as to probable need for these time-consuming tests. The history is found to be valuable as revealing probably sensitive persons who need attention because of this generally unrecognized source of illness. Results of treatment for these conditions are among the most satisfactory outcomes of the health service.

THE relation of the health service to the agencies of physical activity has been cordial and co-operative. Authority for handling members of teams has generally remained with coaches, but one physician of the health-service staff devotes most of his time to the examination and treatment of members of athletic teams. The old conflict is always present between the demands of time and rest for tissue repair and the opposite demands of the game. The welfare of the student and usually the best interests of the sport are found to be served by mutual confidence of physician and coach.

Previous medical examination of persons handling student food has much in theory to justify it, but comparatively little specific attention has been given to it here. During the summer sessions and winter session holidays the service operates regularly for students on the campus. Regular monthly and annual reports are issued giving narrative and tabulated data for the purpose of indicating results and problems. Special reports of a wide variety are given out and occasional papers are prepared by members of the staff, reporting studies and experiences.

A critical examination will reveal problems for discussion in connection with many points in this work, but the selection of a few items of a basic nature may be desirable. The general aim of the health unit is that of the college—presumably to help students develop into the most desirable future citizens. A more specific aim is to help in developing normal robust young citizens who have acquired certain habits, attitudes, ideals, and information concerning the most efficient production and use of bodily energy in themselves and later, in the members of society whom they should be preparing to serve.

The objectives of the health-service work, therefore, should be to assist students to prevent and to recover from various types of illness, to recognize and to correct handicaps commonly spoken of as defects, to carry out known procedures that will better develop or promote personal health, and to acquire information, attitudes, and ideals concerning many phases of personal and community health. The college health service should also take advantage of the unique opportunities of such an organization to investigate many unsolved problems of health and disease. Services to the student may be listed in order of importance as health education, constructive health procedures, the correction of defects, and attention to recognized illness.

Proper health information, attitudes, and ideals are difficult to measure, but the degree to which students are assisted in acquiring

these is the first index of good student-health work. The best means of attaining these ends is one of our real problems. In so far as this has resulted at the health service at Michigan, it has been mostly incidental to clinical attention, which is an effective method of teaching the individual. Student-health work which may be characterized as educational, is most important and least subject to outside professional criticism.

Anything tangible which can be done to assist students positively and constructively in developing their personal health is hard to place in a secondary position. Such activity has been recognized as desirable, but it is hard to define, evaluate, or separate from that which may be characterized under other headings. One is uncertain as to what can be designated in our work at Michigan outside of the clinic, as coming under this heading. In fact, one is not sure that much effort has been made anywhere with the constructive idea clearly in mind. We need much information concerning methods of positive health work which is becoming an ideal or useful slogan in public health. Work of this nature is little understood by the medical profession, and thus it is not subject to its opposition.

Anything done to assist students in recognizing and correcting physical or psychological defects, cannot well be denied credit in any constructive program, but the correction of defects hardly complies with the idea of positive health. On the physical side, the correction of defects is better understood by all concerned; methods are better developed; and support is more readily forthcoming. The need for attention to psychological defects is not so well recognized. Since the best methods of correction are mainly clinical, the work at Michigan is meeting a good present-day standard in the correction of defects. This is important, and subject to professional criticism chiefly to the extent that surgical operations and clearly recognized clinical procedures are employed.

Without any suggestion of unimportance, most activities concerned with the prevention and treatment of illness may be designated as negative and not constructive health measures. The use of methods for the prevention of communicable disease in students must be accepted as a concern of a student-health service, and one need anticipate little professional opposition to work of this nature.

The question of attention to present illness is much more difficult to discuss, mainly because there is less general agreement as to how far the college is responsible for the care of the sick student. It is perfectly clear that it is in the treatment of the sick that one experiences professional opposition. It is also clear that this type of service is understood by all and receives best support. Until medical service is provided by other agencies in a manner which meets the requirements discussed earlier in this paper, the colleges will become increasingly forced to arrange for attention to student illness, under their control.

The Effects of Inbreeding

By WALTER CROSBY EELLS AND AUSTIN CARL CLEVELAND

The Effects of Faculty Inbreeding in American Colleges and Universities

IN A previous paper the authors have analyzed the extent, the patterns, and the trends in faculty inbreeding among almost seventeen thousand faculty members in 219 American colleges and universities, and have shown that it has increased markedly during the present century and especially during the past decade.[1] While it has been assumed generally that such inbreeding is undesirable, there has been little if any effort to measure in any objective manner the actual effects of such inbreeding on college faculties.

The late President Eliot, of Harvard University, over twenty-five years ago said:

> It is natural, but not wise, for a college or university to recruit its faculties chiefly from its own graduates—natural, because these graduates are well known to the selecting authorities, since they have been under observation for years; unwise, because breeding in and in has grave dangers for a university, and also for technical schools and naval and military academies.[2]

McNeely, in the most extensive study of faculty inbreeding yet made, based upon data gathered by individual questionnaires from over six thousand faculty members in connection with the national land-grant survey, says:

> It is generally recognized that employing large numbers of their own graduates as faculty members is detrimental to the efficiency and progress of institutions of higher education. Such members, having obtained their scholastic training in the institutions employing them, frequently become steeped in the traditions and practices of their own institutions. As a result, they lack the broad outlook necessary to academic achievement.[3]

The authors of the recent extensive survey of the University of Chicago go even further in suggesting the specific disadvantages of excessive inbreeding:

> In spite of these extenuating circumstances, it must be recognized that there is a very general sentiment among American institutions of higher education to the effect that inbreeding is unwise. Except in the case of persons of extraordinary ability, the new doctor who stays with his Alma Mater will be slower to gain recognition, either professionally or economically, than if he starts his career elsewhere. These early

[1] "Faculty Inbreeding," JOURNAL OF HIGHER EDUCATION, VI (May, 1935), pp. 261–69.

[2] Eliot, Charles W. *University Administration.* Boston: Houghton Mifflin Company, 1908. p. 90.

[3] McNeely, John H. *Faculty Inbreeding in Land-Grant Colleges and Universities.* Washington, D. C.: Government Printing Office, 1932. p. 1. (United States Office of Education Pamphlet, No. 31)

years are his period of highest development, and he will at this time most quickly appreciate the significance of outside differences. At any cost, he must be saved from falling into a rut. Some of the outstanding graduate schools of this country have adopted the policy of not employing any of their own graduates until they have won recognition elsewhere.[4]

The last two quotations suggest that advancement, achievement, and recognition are definitely related to amount of faculty inbreeding, but no data have been collected to verify or to discredit this hypothesis. The only possible exception to this statement, which has come to the attention of the authors after a careful search of the literature, is McNeely's brief study of the relation of salaries to inbreeding. He reports median salaries for the four academic ranks of men in the land-grant colleges who received all, part, or none of their training in the institutions in which they were employed, but made no effort, by pairing or otherwise, to insure the comparability of the inbred and non-inbred groups in length of service and other significant factors.

THE present paper reports the results of an effort to measure the effect of inbreeding on two carefully paired groups of over four thousand inbred and non-inbred faculty members in American colleges and universities in three features: rate of advancement, scholarly productivity, and professional recognition.

The definition of "inbreeding" used in this study and the method of isolating 5,707 inbred faculty members among a total of 16,837 faculty members in 219 institutions of all types in 42 states have been presented in the previous paper.

An effort was made to pair each of the 5,707 inbred faculty members with a non-inbred one on the basis of institutional membership, length of service, subject-matter taught, sex, and academic rank. The first consideration was that each person should be paired with another from the same institution and with the same length of service. In order to include the smaller institutions, it was necessary to allow a variation of plus or minus one or two years, in a very few cases of three years, in the appointment date. These variations, however, were compensating, the positive and negative variations for the inbred group varying by only .5 per cent for the one-year variations, and less than 3 per cent for the small number of two and three-year variations. The total lengths of service of the two groups are practically equivalent.

Whenever possible, the two members of a pair were selected from the same department, but this was not always feasible in the smaller institutions. Preference was also given to those of the same sex. When the academic rank to which the individual was appointed was given in the catalogue, the method of pairing required that the two members should have been appointed to the same rank regardless of present rank. When this was not shown, a systematic method of chance pairing for rank was used. By these methods, 2,03

[4] Reeves, Floyd W. *et al.* *The University Faculty.* Chicago: University of Chicago Press, 1933. p. 36. (University of Chicago Survey, Vol. III)

pairs of inbred and non-inbred faculty members were isolated, forming two comparable groups which would seem to have had approximately equivalent opportunities for achievement and advancement except for the single variable factor of inbreeding.

It is unfortunate that the number of institutions giving complete promotion data in their catalogues was limited to a relatively small number of the larger institutions so that the number of faculty members which it is possible to include in this section is necessarily smaller than the total of the two paired groups. The available catalogues furnished promotion data for 446 of the inbred group and 469 for the non-inbred.

For 203 inbred men, originally appointed as instructors, it required according to the data summarized in Table I an average of 4.3 years to secure advancement to an assistant professorship, as compared with 3.2 years necessary for 197 otherwise comparable non-inbred men to secure similar promotion. For 166 inbred men originally appointed as assistant professors, 4.9 years were required for advancement to an associate professorship as compared with 4.5 years for 156 men of the non-inbred group. No such handicap seems to exist in the case of men originally appointed as associate professors. The time required for promotion to a full professorship was 4.9 years for 100 inbred men as compared with 5.0 years for 93 men who were not inbred.

It is true that inbred men, appointed as instructors, are decidedly handicapped in rate of advancement, requiring on the whole 1.1 years

TABLE I

COMPARISON OF INBRED AND NON-INBRED FACULTY GROUPS ON THE BASIS OF NUMBER OF YEARS REQUIRED FOR ADVANCEMENT IN ACADEMIC RANK

Rank at appointment	Number		Mean Years for Advancement to Next Higher Rank		Difference of Means in Years	Probable Error of the Difference
	Inbred Group	Non-Inbred Group	Inbred Group	Non-Inbred Group		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total Institutions—						
Instructor	203	197	4.3	3.2	+1.1	0.2
Assistant Professor	166	156	4.9	4.5	+0.4	0.2
Associate Professor	100	93	4.9	5.0	—0.1	0.5
Publicly Controlled Institutions—						
Instructor	86	82	4.8	3.5	+1.3	0.3
Assistant professor	71	70	5.7	5.0	+0.7	0.4
Associate professor	16	23	5.4	4.6	+0.8	1.1
Privately Controlled Institutions—						
Instructor	117	115	3.9	3.1	+0.8	0.2
Assistant professor	95	86	4.3	4.1	+0.2	0.2
Associate professor	84	70	4.8	5.1	—0.3	0.5

longer to secure promotion to an assistant professorship. In the publicly controlled institutions the rate was even slower—1.3 years. The handicap is not so great in the case of men initially appointed as assistant professors, although for this group it required 0.4 years longer to secure advancement to an associate professorship, and in the publicly controlled institutions, 0.7 years. Only in the case of men initially appointed as associate professors is there a slight although distinctly non-significant advantage in favor of the inbred group, and even this slight advantage is not in evidence in the publicly controlled group where it required .08 years longer for the inbred group to secure their full professorships.

It is interesting to note, in passing, that the rate of promotion from one rank to the next is slower in the publicly controlled institutions than in those under private control. In the former it required, on an average, 4.2 years for a man initially appointed an instructor and 5.4 years for an assistant professor to secure promotion; in the latter the corresponding periods were 3.5 and 4.2 years.

TWO measures of scholarly production were used, number of books published and total number of publications. For a measure of book publication, recourse was had to the *United States Catalogue* which contains a list of all books in print at a given date with the names of the authors. All volumes of this publication down to and including 1932 were checked against the names of the 4,072 men and women in the pairs.

Three hundred twenty-two authors of books according to Table II were found among the inbred group as contrasted with 428 among the non-inbred men. The former published 864 books as compared with 1,122 for the latter group. This is distinct evidence in favor of the non-inbred group from the standpoint of scholarly production as measured by book publication. The number of authors is

TABLE II

COMPARISON OF INBRED AND NON-INBRED FACULTY GROUPS ON THE BASIS OF NUMBER OF BOOKS PUBLISHED

	Inbred Group	Non-Inbred Group
(1)	(2)	(3)
Total Institutions—		
Number of faculty studied.	2,036	2,036
Authors of books	322	428
Percentage of faculty authors	15.8	21.0
Number of books published	864	1,122
Number of books per author	2.68	2.64
Number of books per faculty member	0.42	0.55
Publicly Controlled Institutions—		
Number of faculty studied.	1,103	1,103
Authors of books	149	219
Percentage of faculty authors	13.5	19.9
Number of books published	285	497
Number of books per author	1.91	2.27
Number of books per faculty member	0.26	0.45
Privately Controlled Institutions—		
Number of faculty studied.	933	933
Authors of books	173	209
Percentage of faculty authors	18.5	22.4
Number of books published	579	626
Number of books per author	3.35	3.00
Number of books per faculty member	0.62	0.67

33 per cent greater among the non-inbred group, and the number of books produced by them is 30 per cent greater. The differences are still more striking for the faculty members of the publicly controlled institutions where the number of authors is 47 per cent greater and the number of books 74 per cent greater for the non-inbred than for the inbred group.

Expressed in a different way, 100 inbred faculty members have published 42 books, while 100 non-inbred men, presumably with equivalent background and opportunity, have produced 55 books. In the publicly controlled institutions 100 inbred faculty members have produced only 26 books while 100 not so characterized have published 45 books. The difference is less pronounced in the privately controlled institutions, but even here 100 inbred men produced 62 books, while a similar number of their colleagues trained in other institutions published 67 volumes.

Much scholarly production appears in journal articles, monographs, and other forms of publication which are not listed in the *United States Catalogue*. Accordingly, the entire reported publications of 992 individuals (496 pairs) were studied in four institutions for which official reports of faculty publications were available for the three years 1928 to 1931—Purdue, Stanford, Chicago, and Oberlin.

The differences summarized in Table III are not so marked in favor of the non-inbred group as in the case of book production, but they still are unfavorable to the inbred group, 231 of the former and 227 of the latter having some publications to their credit during the period studied. The non-inbred writers averaged 6.7 titles each as compared with 6.0 for the inbred men. The producing authors published more than 11 per cent more of books and articles per author. While not directly connected with the present investigation, it is

TABLE III

COMPARISON OF INBRED AND NON-INBRED FACULTY GROUPS IN FOUR INSTITUTIONS ON THE BASIS OF TOTAL NUMBER OF PUBLICATIONS, 1928–31

	Inbred Group	Non-Inbred Group
(1)	(2)	(3)
Number of faculty studied..	496	496
Number of faculty authors..	227	231
Percentage of faculty authors	45.8	46.6
Number of titles per author..	6.03	6.72
Number of titles per faculty member.....	2.76	3.13

TABLE IV

PERCENTAGE OF FOUR THOUSAND SEVENTY-TWO INBRED AND NON-INBRED FACULTY MEMBERS INCLUDED IN THREE NATIONAL REFERENCE WORKS

	Inbred Group	Non-Inbred Group
(1)	(2)	(3)
Total Institutions (2,036 pairs)—		
Who's Who in America....	7.1	10.5
American Men of Science..	7.1	11.2
Leaders in Education.....	6.0	9.5
Publicly Controlled Institutions (1,103 pairs)—		
Who's Who in America....	3.5	8.4
American Men of Science..	5.2	12.0
Leaders in Education.....	2.8	8.2
Privately Controlled Institutions (933 pairs)—		
Who's Who in America....	11.6	12.9
American Men of Science..	9.4	10.3
Leaders in Education.....	9.8	11.0

of interest in passing to note that less than half of the faculty in either group published anything during the three-year period under consideration.

TO OBTAIN measures of professional recognition, the complete list of 4,072 names was checked for inclusion in the latest editions of the three well-known national reference works, *Who's Who in America*, *American Men of Science*, and *Leaders in Education*. The percentage of the two groups found in each of these volumes is summarized in Table IV.

Of the 2,036 non-inbred individuals, 10.5 per cent were found in *Who's Who*, 11.2 per cent in *American Men of Science*, and 9.5 per cent in *Leaders in Education*. For the 2,036 paired individuals of the inbred group the corresponding percentages were 7.1, 7.1, and 6.0. These results are again distinctly in favor of the men teaching in institutions from which they have not previously received a degree. For the non-inbred group the chances are 48 per cent greater for inclusion in *Who's Who* and 58 per cent greater for inclusion in either of the other two volumes. The chances are over twice as great in the publicly controlled institutions, and for inclusion in *Leaders in Education* almost three times as great, for the non-inbred group as for those who have not had the benefit of the wider academic background and experience. The chances are more nearly equal for the two groups in the privately controlled institutions than in those under public auspices, but even here they are again all in favor of the non-inbred group.

From every standpoint from which objective evidence has been collected it appears that the probabilities of academic advancement, scholarly productivity, and outside professional recognition are distinctly greater for men who have had their academic preparation in institutions other than those in which they are teaching. The weight of the evidence is clearly in favor of the unsupported statements made by President Eliot, by Mr. McNeely, and by the authors of the University of Chicago Survey as quoted at the beginning of this article. In the previous paper by the present authors it was shown that over a third of the faculty members in 219 institutions of higher learning in the United States had one or more degrees from the institutions in which they were employed, and that such academic inbreeding has increased markedly, especially in the last decade.

The practice of inbreeding certainly is fraught with potential danger, not only from the standpoint of the individual faculty member but from the standpoint of the welfare of the institution as a whole. The facts presented in this paper serve only to intensify the suggestion made at the close of the previous paper for a more careful consideration of sound principles of higher educational eugenics if the virility of the American college and university is not unconsciously to be undermined by excessive inbreeding leading to lessened academic productivity, if not sterility.

· *With the* · Technicians ·

"Scholarship and Distinction"

Hindsight is not only better than foresight; it is often the very basis of intelligent foresight. Thus, in considering educational trends, one valuable aid should be a survey of the patterns into which college alumni have woven the warp of college with the woof of later achievement as the shuttle of experience flew back and forth across the beam of time.

These are the opening sentences of the article, "Scholarship and Distinction," by F. Alexander Magoun, associate professor of humanics at Massachusetts Institute of Technology.[1] In it he summarizes a portion of his contribution as a member of an informal Committee on the Aims and Techniques of Teaching organized at Technology in 1933 with the purpose of determining what constitutes an educated man, and of attempting to express the "process which produces this illusive pearl of great price."

With the intention of acquiring data on a large group of persons whose achievements are recognized, he studied the records of all the Technology men whose names are listed in *Who's Who in America* (1932), *Who's Who in Engineering* (1931), and *American Men of Science* (1933). These sources were chosen because no other objective method of selection was available, and because they would yield a representative list of outstanding men. The names of 509 men who claimed that they received instruction at Technology were found in *Who's Who in America*, with those of 933 men in *Who's Who in Engineering* and of 717 in *American Men of Science*. Of these, 98 names appeared in the three volumes, 171 names in the two "Who's Who," 175 in *Who's Who in America* and *American Men of Science*, and 151 in *Who's Who in Engineering* and in *American Men of Science*. Since the report was to be based chiefly on academic measures of achievement, the undergraduate record of each man was unearthed, his average mark calculated, and his decile rating determined. In order to determine the decile ratings the average marks of all the members of the class had to be computed. This was not done for every class from 1868 to 1930, but the deciles were computed for the graduating classes of 1885, 1888, 1890, 1893, and so on to 1910.

The distribution by scholastic deciles for the men whose biographies are in all three volumes follows:

Deciles	Per Cent	Deciles	Per Cent
1	22	6	3
2	14	7	3
3	18	8	7
4	12	9	5
5	7	10	9

This distribution resembles that of the record of the graduates of Tech-

[1] *Technology Review, XXXVII* (May 1935), pp. 304-306, 342.

nology whose names appear in any one of the three volumes.

Mr. Magoun says that the men in the lowest deciles

who have achieved distinction did not do so because they were dull; a study of the fifth to ninth deciles makes such a theory untenable. They achieved distinction perhaps because they were unwilling only to study when and as directed; because they took a college course in being editor of *The Tech*, president of a fraternity, chairman of the Institute Committee, as well as a college course in physics and mathematics; because they possessed qualities of judgment and leadership not measured in college grades; because they were misfits at Technology; or because they were definitely non-conformers, including those special students who studied for content rather than for marks and who, not being interested in degrees, cut their final examinations.

. . . . . .

The men in the top deciles succeeded not just because they were bright, but because they also possessed those other qualities which include an understanding of the art of human relations, without which true leadership is impossible.

The author asserts that the most significant figures in the whole study are the percentages of persons whose undergraduate records placed them in the tenth decile—22 per cent in *Who's Who in America*, 15 per cent in *Who's Who in Engineering*, 9 per cent in *American Men of Science*, and 9 per cent of those whose names appear in the three volumes. His comments regarding these are as follows:

Beyond dispute there is a large group of students who, with a perverse and tactless mockery, live lives rich in influence and achievement despite their failure in college. After the stuttering explanations which betray one's surprise have subsided, one begins to have an uneasy notion that if the object of college is better to fit men for intelligent living and not merely to instill a certain body of data, such things as personal appearance and the gentle art of human relations are factors of immense importance.

It is not going beyond the bounds of temperate statement to say that a grade in personal neatness, ability to co-operate, attitude toward suggestions and corrections, self-control, enthusiasm, courtesy, punctuality, reliability, or ability to work without supervision may be fully as important as a grade in calculus, geology, or quantitative analysis. He who teaches the subject and not the student is evidently doing only half his job.

Students in Colleges of Business and Administration

What type of student pursues a commercial education beyond high school? What are the basic interest patterns of such students? One answer to these questions is presented by Richard J. Triplett in the January-March issue of the *Journal of Abnormal and Social Psychology*. Three hundred seventy-five students attending a Denver commercial school between January and September, 1932, were measured by the test known as "A Study of Values," devised by Allport and Vernon. This test aims to measure the relative prominence of six basic interests or motives in personality—the theoretical, economic, aesthetic, social, political, and religious—by means of a number of questions based on

familiar situations. The answers are so evaluated that an individual's development in any of the six interests is high or low as his scores deviate from 30. The group showed considerable variability. The distribution for aesthetic scores showed a positive score, while that for the religious scores was negative. The range was least, 37, for the political scores and the greatest, 63, for the religious scores. The men were more theoretical, economical, and political than the women; the women were more aesthetic, social, and religious. The sex difference was least for the political and greatest in the aesthetic scores. Two hundred of the group were also tested by the Otis Self-Administering Intelligence Tests and the Thurstone Employment Test. There were no significant correlations between the interests previously measured and mental alertness or speed and accuracy in clerical work.

The commercial value of this type of study is still uncertain, but these differences in interests should be significant for vocational advice, educational method, and personal counseling. "Political, economic, and social changes seem the order of the day. As our social organization becomes more complex there is need of better-balanced individuals everywhere, and the commercial world cannot be excepted."

The *Harvard Alumni Bulletin* reports that the number of men who graduate from Harvard College after three years' work is steadily decreasing. Only six who received their degrees last June had completed the requirements in less than four years. The numbers of such men in other recent years have been: 11 in 1933; 12 in 1932; 15 in 1931; 26 in 1930; 37 in 1929; 65 in 1928; and 84 in 1927.

Dean Hanford, of Harvard College, says in his annual report that "this decrease is due largely to the fact that students have come to see that the general examination and tutorial systems ordinarily require three years beyond the freshman year, and also to the abolition of the general examinations at mid-years."

Exchange Professors

Under the charming title "An Academic Interlude," Francis G. Peabody, emeritus professor of theology, describes in the *Harvard Alumni Bulletin*[2] the arrangement of an exchange of professors between Harvard University and the University of Berlin which was maintained from 1905 to 1914 and which provided for its participants a "pleasant interlude in academic life." Mr. Peabody alone, of the nine Harvard representatives who lectured in Berlin, remains to recount the history of "this unprecedented undertaking . . . and the limitations and obstacles which it had to meet."

Mr. Peabody, when considering the impression left on his mind as a participant, finds two reminiscences which seem to deserve record:

> The first was the discovery, made by each American visitor in turn, that there was, in the mind of many German authorities, more than one object involved in promoting the exchange. . . . Thus

[2] XXXVII (April 12, 1935), pp. 786–92.

the American lecturer found himself occasionally regarded as a kind of emissary of international diplomacy, as if expected to contribute to the relief of the political strain which had already become a threat of war. . . . The modest American scholar, offering his material of science or philosophy or history, seemed in danger of being mistaken for an ally in this passionate desire of political expansion and diplomatic achievement.

. . . . . .

A second impression through which the exchange might teach a permanent lesson was gained by observing the manners and customs prevailing thirty years ago in the best German universities. Both teachers and students became subjects of daily observation—the lecturers in their waiting-room (*Sprechzimmer*) and their informal conversation, the students both as listeners in the lecture room and as young men at work or play; and the contrasts between each of these groups in Germany and the corresponding type in an American university were not only instructive but in some respects chastening to the exchange professor. The lecturers . . . seemed to be as a class more absorbed in their specialized vocation than is common in the United States. They had, as a rule, few interests beyond their professional aims and tastes. . . . the performance of the most eminent lecturers—at least in subjects open to such methods—had a rhetorical perfection and a commanding eloquence which is not only infrequent but rarely attempted in America. The public lectures, for example, of Professor von Harnack . . . had a freshness of style and manner of exposition which reached even a passionate restlessness, and converted discourse concerning a remote historical controversy into a vivid picture of a dramatic scene.

. . . . . .

When one turns from the teachers to the hearers and recalls the contrast between German and American students in that Golden Age of academic life ten years before the War, it is of course impossible to make general statements which cover either type. . . .

In short, there was much which each country might learn from an academic interchange, and the exchange of professors might be with mutual advantage supplemented by an exchange of students. If American students should discover that they were confronted in Germany by unfamiliar types of learning, and German students could acquire more of the breezy vitality prevailing in American universities, there might be on the one side an intellectual re-enforcement and on the other a physical refreshment, which would make of the exchange an international opportunity rather than an academic interlude.

·The·Reporter·

THE budgetary appropriations for all divisions of Columbia University, for the year beginning July 1, total a little more than $14,650,000, which is an increase of $522,912 over the present budget. Most of this increase will be used to provide salary increases for members of the faculty.

THE Department of History, Smith College, will next year add an elementary course, "The History of the Americas," as a prerequisite for more advanced courses.

LATE in March ground was broken for the building of a new dormitory building at Marymount College, to cost about $500,000. The completion of the unit, which will house seventy girls, is expected next spring.

BEGINNING in the fall of 1935, Gettysburg College will become a coeducational institution. The present academy building will be converted into a girls' dormitory.

THE Department of Sociology and Anthropology recently organized at Washington University will bring together courses now being offered in other departments of the University.

A REDUCTION of $70 in its tuition charge has been announced by Carleton College. Beginning in the fall of 1935 the tuition will be $280 instead of $350. Reductions have also been made in dormitory charges, totaling in the neighborhood of $30. The saving to Carleton students will amount to about $100, reducing the total fixed expenses to $748.

A NEW marking system will go into effect at Western Reserve University next fall. Students will, under the new plan, receive no marks other than notations as to whether or not their work is considered satisfactory or unsatisfactory. The change is a reversion to a marking system abandoned several years ago.

THE second Alumnae College of Mount Holyoke will be held June 11 to 15. The general topic for the sessions will be "Current Aspects of Nationalism," and the program will include lectures, symposia, panel discussions, and round-table conferences on nationalism in art, literature, music, the sciences, religion, economics, and politics.

HARVARD UNIVERSITY announces that the prize scholarships offered to Middle Western high-school graduates entering the freshman class will be extended to the states of Iowa and Kentucky. The program begun last fall offered ten prize scholarships for students living in the states of Ohio, Michigan, Indiana, Illinois, Wisconsin, and Minnesota. The stipends for these awards vary from a minimum of $200 to a maximum of $1,000. If

a recipient maintains a high honor record during his freshman year the scholarship is renewed for his sophomore year and with continued success throughout his entire college course.

AN HONOR society in education, Kappa Delta Pi, offers its third research award of $1,000 for a document discussing any significant phase of the history of American education. Manuscripts must be submitted not later than September 1, 1939. Individuals interested should write for information to E. I. F. Williams, whose address is Heidelberg College.

THE College of Engineering of Cornell University has announced fifteen cash scholarships totaling $800 each, to be paid at the rate of $200 a year for four years, for graduates of high schools and preparatory schools outside of New York state. One scholarship will be granted to a resident living in each of the fifteen geographical regions into which the United States has been divided.

THE first Alumni Institute of Cornell University will be held from June 17 to June 20. Cornell men and women with members of their families will be invited to enroll as students to attend lectures and round-table discussions led by well-known professors on present-day social, political, and governmental questions. Living accommodations will be available in the University dormitories.

A NEW course for Freshmen, entitled "Man and His Environment," will be introduced next fall at Amherst College. It is an experimental effort to solve the problem of the survey or orientation course for Freshmen by a compromise, covering a related group of sciences rather than attempting to survey the whole field of science. The four natural sciences to be included are geology, zoölogy, botany, and the evolution of man.

ARRANGEMENTS were completed during March by Union College with Amherst, Colgate, and Columbia for a series of intercollegiate round-table discussions in the social studies. The sessions last two days, and groups of advanced students of each institution visit the others and conduct seminar-like meetings on subjects for which they have prepared themselves.

On April 10, six advanced students in economics at Union College went to Columbia University for sessions; a group of Amherst students went to Union College on April 18–19 to discuss the field of philosophy; and a third group, students of philosophy at Union, went to Colgate for two-day round-table discussions on May 10.

THIS summer, construction will be started on two new dormitories at Smith College which will complete the quadrangle of ten buildings begun in 1922. When the two new units are completed 30 per cent of the population of the College will be housed in the quadrangle. The new houses will hold sixty students each, and none of the present buildings accommodates more than sixty-five, thus carrying out consistently what was originally known as the "cottage plan" of residence. Also, another

policy of the College is to include members of all four classes in every house rather than to segregate them.

NEXT fall New York University will establish at Hempstead, Long Island, a new division to be called the Nassau College of New York University. The new college will be located on a fifteen-acre estate deeded the University by the late Mr. and Mrs. William S. Hofstra. It has an assessed value of $195,000 and provides a campus nearly twice as large as Washington Square Park, one of the centers of the University in New York City. The building on the property will be remodeled to provide classrooms, library facilities, offices, seminar rooms, and a cafeteria. The college will offer a liberal-arts program, a teacher-training curriculum, a school of commerce in the evening, and a broad program of adult education.

YALE UNIVERSITY announces the inauguration next fall of a new type of advanced study—the establishment of a division of graduate studies in the Graduate School. Students admitted to this division will have a much broader range of study than that provided in the programs now sponsored by the individual departments of the Graduate School. The new division, which will cut across departmental lines, will be directed by a Committee on General Studies, which will draw upon all existing resources of the University in adjusting programs of study to meet the individual needs of its students.

This new and broader type of advanced study is not aimed at the training of investigators; it is designed especially to prepare individuals for professional service in less conventional types of educational enterprises, according to the announcement. It will be open to librarians, museum docents, forum leaders, and others engaged in the general field of adult education. A few fellowships for this group will probably be available for 1935–36.

A NEW plan of admission and curriculum regulations which will permit students freedom under individual guidance to determine the choice of courses leading to graduation has been announced by Elmira College. To enter under the new plan a student will be expected to present a satisfactory secondary-school record, take a scholastic-aptitude test, and offer twelve units of work completed in the last three years of the preparatory course. With the exception of three required units in English, the other nine may be elective depending upon what the student expects to take in college.

Each student's curriculum will be built up separately and adapted to herself, and after the freshman year she will choose her course in consultation with a special faculty committee. Although students must still take physical education and some work in English Bible and English, almost all general requirements will be abolished. After the satisfactory completion of 120 hours of work under the new regulations a student will receive an A.B. degree; provision also is being made for specially qualified

students to work for an A.B. with distinction if they so desire.

THE creation of a new Ph. D. degree in the History of Science and Learning has been announced by Harvard University. The call from colleges and universities for instructors trained in the history of ideas and systematized knowledge has lead Harvard to create this degree. In making announcement of the new degree, President Conant made the following statement:

> If our young men and young women are to have an understanding appreciation of the spiritual values of the civilization which they inherit, they must be given an account of the historical development of our knowledge and of our philosophy. The History of Science, the History of Ideas, the History of Scholarship, and the History of Universities should now be occupying the attention of many instead of a few. A discussion of these subjects with the proper emphasis on their relation to social and political history might well form an important part of a liberal education, but to find satisfactory teachers for such courses is now almost impossible.
>
> Until we have an adequate survey of our intellectual history we cannot expect the world at large to understand the importance of the scholar's contribution to civilization.

THE establishment of a unified-study division in the Washington Square College, which will be put into effect next fall, has been announced by Chancellor Chase, of New York University.

The program will be restricted to two hundred Freshmen whose chief interest is in general education and who, during the first two years of their liberal-arts course, will work under a correlated curriculum involving written and oral English, the physical sciences, the nature of life and of man, philosophy, literature, fine arts, and music.

Academic marks, semester examinations, penalties for absence, and other unusual academic requirements will be abolished. Achievement will be measured only by means of a comprehensive examination covering the whole field of study at the end of the two-year period. The curriculum will apply only to the students who elect it as a unit and who decide upon this curriculum at their matriculation rather than the regular program now in vogue. No student will be permitted to divide his time between the old and new programs. Similarly no part-time student will be accepted in the new division and only the first year of the two-year course will be offered in 1935–36.

THE Board of Trustees of Stanford University has recently approved the appointment of consulting professors in the Graduate School of Business as a means of "recruiting for the school the wisdom and experience of business leaders on the Pacific Coast." Consulting professors in banking, marketting, public-utility management, finance, and in other fields will give occasional lectures to classes and seminars, consult with the regular faculty, and counsel advanced students engaged in research.

Dean J. Hugh Jackson, of the Graduate School of Business, com-

mented as follows upon the new arrangement:

. . . [it] will give the men and women training for business not only intimate association with the trained experts making up the regular faculty of the school, but will also give them much closer association with those business leaders who are actively on the "firing line" of industry and finance.

REED COLLEGE is announcing a fifth year for secondary teachers.[1] This is planned to meet the growing demand for fuller and richer preparation for the important function of teaching adolescents, especially in public schools. Certain states, including California and Washington, now require a fifth year for high-school certification, and other progressive states, including Oregon, are seriously considering similar action.

The seminar will be limited to a small number—probably ten or twelve, at least during the first year. The work will be definitely on graduate level, with much attention to varying individual needs and wide opportunity to meet these needs. The whole group will meet regularly in an educational seminar, with the guidance of leading members of the faculty in various fields. Practical work will be offered including supervised teaching in high-school subjects and also opportunity for contact with administrative and executive operations. A course in advanced educational psychology is planned to open up the most important bearings of modern psychology upon instruction, educational guidance, personal development, and other aspects of the high-school problem. Abundant opportunity will be offered to each member to expand and enrich his command in the high-school subjects he is to teach.

The teaching staff will be drawn from the faculty as a whole; the following persons will take leading part in the seminar: Dexter M. Keezer, president of the College and professor of economics; Edward O. Sisson, director of the seminar; William Griffith, psychology; Assistant Superintendent Norman C. Thorne, of the Portland schools; and James T. Hamilton, director of admissions. Other members of the faculty and experts from outside the College will participate.

The College is prepared to devote the best energies of its staff and equipment to this new enterprise. The seminar will have the benefit of the advanced and progressive methods already in vogue at Reed. It is hoped and believed that the project will make a marked contribution to the great problem of the better preparation of secondary teachers.

WHITMAN COLLEGE has organized a new program, leading to the Master of Arts degree, especially designed to meet the needs of teachers.[2] The curriculum leading to this degree must be so selected that the candidate will present not less than two complete teaching majors and a major in education. The graduate work shall be distributed over not more than four fields. Thirty-four semester hours of graduate work in course are required.

[1]Reported by Edward O. Sisson.

[2]Reported by C. W. Howard.

Baer found that the chance of a teacher's teaching his college major was about one in three, and that there was an equal chance that he would be teaching neither in his major nor in his minor field.[3] In a study covering the teachers in three states Bennett showed that more than half of the teachers were teaching two or more subjects, and about 30 per cent were teaching three or more subjects.[4] This situation may be improved at the present time since accrediting organizations are attempting to improve it. Complete eradication, however, cannot be expected, especially in the smaller schools which constitute beginning jobs for teachers fresh from college.

Since this is the case, the only alternative is to prepare teachers to meet the situation as it exists. The non-concentrated type of curriculum for teaching preparation, leading to the Master of Arts degree, is the answer of Whitman.

This plan of study does not require a graduate major or minor either in subject-matter fields or education. The college does not consider such specialization needed or desirable on a graduate level as preparation for high-school teaching, especially for beginners. It does provide, however, a well-planned, integrated year of graduate study, supplementing the fields of undergraduate study, with a minimum of two strong teaching majors. In addition to this, opportunity is given to build up a third teaching field with graduate study, while an approved education major of not less than 24 semester-hours is required. The candidate must pass a comprehensive oral examination covering the fields presented for the degree.

[3]Baer, J. A. "Do High School Teachers Teach the Subjects for Which They Are Trained?" *Educational Research Bulletin*, VII (January 25, 1928), pp. 22–23.

[4]Bennett, Raymond D. "Standard for Certification of High School Teachers," *Educational Research Bulletin*, VII (February 22, 1928), p. 91.

A BROAD reorganization of courses in the fine arts at New York University aimed to develop and encourage graduate and undergraduate work in the non-professional program and raise the status of the professional program was announced by Chancellor Harry Woodburn Chase late in February.

The reorganization, effective July 1, will include:

1. Further development of the department of the history of art, including the program of the University Graduate Center of Fine Arts conducted in co-operation with the Pierpont Morgan Library, the Metropolitan Museum of Art, and the Frick Art Reference Library.
2. Recognition of the substantial development of the professional curriculums in fine arts by the establishment of a new division, the School of Architecture and Allied Arts.
3. Development of the department of music and the establishment of a graduate department of music which will offer courses leading to the Master's degree.
4. Organization of a graduate as well as an undergraduate curriculum in the Department of Dramatic Art with emphasis placed upon the training of teachers in all fields of dramatic art as well as professional dramatists.

·Editorial·Comments·

Vocational Planning

IF COLLEGE faculties were polled it would be found that the majority of them support the position that students should prepare for whatever vocations they may happen to choose. When the student tells the admission officer what his preference is, the matter is settled to the satisfaction of the administrator, and he is enrolled in the college as a matter of course. The policy of laissez faire and rugged individualism operates almost universally.

That there is now a place for social planning by the educational institutions of the nation is admirably presented by Harvey Walker in the current issue of this JOURNAL. Even in the booming days of the tens and twenties of this century the supply was exceeding the demand in some occupations. In the field of teaching, specifically, it was found that by and large one-third of the graduates of teacher-training institutions could not be placed. Recent reports by authoritative medical commissions indicate a saturation point in that field, although other commissions which predict state medicine believe that the supply of physicians will not quickly meet the needs of public health. There has been for a decade a belief that the legal profession is oversupplied with practitioners.

Mr. Walker, drawing plentiful analogies from the National Planning Board, proposes a national agency for the study of vocational supply and demand. He recommends that the Office of Education of the Department of Interior should undertake the project and that it should continuously operate in successive studies year by year.

That the project is necessary is freely admitted; that it is practical can easily be demonstrated. For in some areas as in teaching partial studies have been made which will provide detailed techniques. Specifically, in Ohio a demand-and-supply study for teachers has been in continuous operation for seven years. Year by year the statistics collected by the State Department of Education have been planned and used to show not only the number but the types of teaching positions that are occupied each year. Formulas have been constructed to determine the number of vacancies that may be expected in the different types of position. Although these formulas are rough, because of the incidence of the depression, the project is in active operation. On the subject of supply, data are gathered each year about the number of graduates of teacher-training institutions, including the colleges, and the number of graduates who do not secure appointments.

These materials are placed at the disposal of all teacher-training institutions. They are useful for guidance officers and students in determining the most likely position for which to

train, and they will be more useful when predictive formulas can be constructed to forecast the probable trend of demand when the entering student graduates and begins to practice his vocation. It is, however, apparent that the control of supply and demand in teaching is a responsibility of the state department of education, and that upon it rests certain decisions and guidance regulations for the teacher-training institutions of the state, including the colleges. In other words, state planning must be centralized, horrible as it sounds to the proponents of rugged individualism, and flexible allocations of quotas must be made.

While teaching is an easy profession to study, because the demand can be definitely determined by counting the number of teachers in the state system, other occupations will be harder to study. The number of lawyers, doctors, dentists that are needed is not so easy of computation. The needs of business are still more difficult to gauge; but the task is not impossible, and the incentives for undertaking it are strong.

It is not necessary to wait for a Federal agency to initiate the study, desirable as that would be. It is entirely feasible for state and regional units to undertake the project because graduates, by and large, settle in the regions where they are educated. Sixty-four per cent of the graduates of the University of Illinois reside in the state of Illinois.

The chief obstacle in vocational planning is the faculties of colleges and universities who still believe that a student's uninformed judgment about the vocation he should follow is the sole criterion of his admission to professional courses, his ability to pass his courses is the sole criterion for his remaining in college, and his success in finding a position with the help of the appointments office is his own concern. This is unfortunate. But it is true.

W. W. C.

··Reviews··

Religion in College

TWO CENTURIES OF STUDENT CHRISTIAN MOVEMENTS, *by Clarence P. Shedd.* New York: Association Press, 1934. xxii+466 pp. $3.00.

Mr. Shedd has done a real service, not only to those concerned in religious work in the colleges, but to all who are interested in the history of higher education, by bringing together into one substantial volume the story of voluntary religious groups among American students, beginning at Harvard in Cotton Mather's time, and continuing down into our own post-war period. The latter half-century of this history, as it institutionalized itself in the intercollegiate Y.M.C.A. and Y.W.C.A. and the Student Volunteer Movement, is of course vivid in the memory of thousands of living college graduates; but it is here brought together into a consecutive story which sheds new light upon the influences, impulses, and personalities that shaped this dramatic period. To most readers, the earlier history, as the author has dug it out of records, letters, and diaries in a score of the older colleges, will be of special interest—and some surprise. It shows how widespread were such groups in the eighteenth and early nineteenth centuries, how various their functions, how definite their outreach for intercollegiate association, and how real their concern, not only with the dominant theological interests of the time and its nascent missionary impulses, but with the emerging ethical and social issues. The story of the Haystack Volunteers at Williams is well known; but that of the divisions of opinion and repressions of discussion on the slavery question at Lane and Andover Seminaries and Amherst College in the 1830's is not so familiar—nor will its significance be lost on students of today, who find college and governmental authorities anxious about their radical views on social questions.

When the history of the organized "intercollegiate movement" that began in 1877 at Princeton is set into relation with what went before and what has followed after in American religious life, certain connections appear which those who are most active in present-day work with students do not always realize. The extent to which this movement, both in its organized form and its leading personalities, arose in direct sequence out of the religious and missionary awakenings that stirred America so deeply in the middle nineteenth century and that have no analogue in the experience of the present generation; the limited degree to which this movement was related to or felt the influence of the changing interpretations of religion that during this same period were becoming more and more prevalent in the thinking and teaching of the colleges themselves; the significant correlations between the national and international outreach of this movement, and the strong impulses toward nation-wide expansion, uniform and closely knit organization, and international self-assertion, that were characteristic of a young nation just coming into self-consciousness and world-wide relationships; and not least, the homogeneous smallness of the colleges through which the student and missionary uprisings of the eighties and nineties spread like wild-fire, as contrasted with the size and social and religious variety of American institutions of higher learning today—these are factors suggested though not explored in Mr. Shedd's history, which are of special significance in view of the contemporary interest in a new "united student movement." The presuppositions and antecedents upon which such a movement was actually built in the nineteenth century no longer exist in the American colleges of

today. Here as elsewhere, the Great War has partly revealed and partly produced changes, the full significance of which we have hardly begun to understand.

CHARLES W. GILKEY
University of Chicago

Civic Adult Education

THE AMERICAN WAY, *by John W. Studebaker*. New York: McGraw-Hill Company, 1935. xi+206 pp. $2.00.

If one wishes to know what manner of man is now United States Commissioner of Education, let him read *The American Way*. Here is a new vision—"the next great contribution to American democracy." The book was written just as Mr. Studebaker was leaving the superintendency of the Des Moines schools to take over the commissionership of education at Washington. It is an account of an experiment in adult civic education conducted through public forums organized and administered under the authority of the board of education of the Des Moines public schools, and financed through a grant of $125,000 from the Carnegie Corporation of New York. The program began in January, 1933.

The book describes and attempts to evaluate the first two years of the experiment scheduled to run for five years. As was to be expected in such a venture, different schemes or plans were tried. Some proved good, while others were discarded. Three types of forums were developed: the neighborhood, the central, and the city-wide. Four types of forum leaders were employed: those on full time, persons brought in for ten to twelve weeks, those who could be secured for three to six weeks only, and the occasional lecturer.

Organization and procedures are described in detail. Lists of forum subjects and speakers, samples of study outlines, and circulars of information are included. One senses the author's mastery of detail.

The survey of the program conducted at the close of the first year's work throws some light on its success and raises interesting questions. Only about 17 per cent of the total adult population attended one or more forum meetings during the year. About 10 per cent claimed they had never heard of the forum even though the two daily papers had given generous space to its program. Among the dozen reasons given for non-attendance, "not interested" ranked first with 27.9 per cent; next in order, respectively, were "employment will not permit," 14.1, and "home duties," 13.4.

The report presents an interesting challenge to the secondary schools to vitalize their civic instruction. One hopes that the Des Moines experiment will really make some contribution to increasing the civic consciousness and effectiveness of youth either through the secondary school directly or through its closer articulation with the public forum program for adults.

The weakest part, if there be such, is the chapter on "Why the Federal Government Should Support Public Forums"; but with his main contention that the Federal government should finance a series of experimental centers such as that at Des Moines for a period of years there can be no essential difference of opinion. The strength of the book lies in its argument that "out of the welter of present-day contradictions in our economic life there is being forged a new definition of democracy." It is with this new definition and the author's vision of a way of attaining it through education that the reader is concerned.

J. CAYCE MORRISON
University of the State of New York

Measuring Executive Abilities

PSYCHOMETRICS, *by Johnson O'Connor*. Cambridge, Massachusetts: Harvard University Press, 1934. xxxiv+292 pp. $3.50.

Psychometrics as originally planned was to be a treatise on the measurement of executive abilities. Because executives were found to be consistently superior in a wide range of tests, attention was shifted to a detailed study of and report on the

O'Connor series of tests. A brief summary of results obtained from the administration of the tests to one hundred major executives is presented in the Introduction, and the remainder of the book is devoted to a detailed presentation of elementary statistical principles and methods accompanied by a wealth of examples drawn from the application of the tests to various groups of subjects. The tests are: wiggly block, number checking vocabulary, tonal memory, free association, inductive reasoning, tweezer dexterity, and finger dexterity.

In addition to the lengthy discussion of statistical methodology (measures of central tendency, variability, and relationship), O'Connor devotes almost half of his book to a helpful discussion of disturbing factors in testing such as interest, nervousness, fatigue, luck, practice, age, sex, homogeneity versus heterogeneity among subjects tested, and "purification" of multiple-item tests. The theory of unique traits is adopted as a guiding principle underlying the selection of tests.

By way of praise, one should mention O'Connor's emphasis on unit tests, the adoption of a test-purification technique, and his insistence on the desirability of expressing "reliability of a test" in terms of the standard error of an individual score rather than in terms of the customary reliability coefficient. None of these praiseworthy features are novel contributions to psychometric theory or practice, but the wealth of statistical data provided by O'Connor will help in establishing them more firmly.

Many psychologists will be disturbed to note the frequent misuse of certain psychological terms, especially the word "instinct." For example, we are told that the solution of the wiggly block test is visualized in space; that it is seen in some instinctive manner in three dimensions. Or again, that major executives grasp the significance of clerical records instinctively. The subjective man is said to put himself instinctively in the place of another individual, whereas the objective man almost instinctively sees another's point of view. One instinctively feels the sincerity of the pose. The fundamental instincts of every physicist regard an average as safer than a single observation and so forth. These examples are all drawn from the Introduction and the first thirty-five pages of the book proper. Psychologists will also lift their eyebrows when they read that O'Connor has isolated and measured seven unique mental elements among which are listed engineering aptitude, clerical aptitude, and creative imagination. The presentation of a table of intercorrelations for all of his tests coupled with a systematic method of factor analysis would have been more orthodox. Furthermore, it would have been helpful had he defined the various populations to whom the tests were given. Finally, one is astonished to note the absence of bibliographical or other references to O'Connor's predecessors and contemporaries who have been responsible for developing the field of knowledge covered by the title of his book.

The book gives added data regarding the O'Connor system of testing. Read in conjunction with his previous book, *Born That Way*, one gains additional insight into some of the limitations and possibilities of his tests. It is to be hoped that O'Connor, at an early date, will present systematically all available data regarding his tests so that a dispassionate appraisal of his extensive program of testing may be possible.

DONALD G. PATERSON
University of Minnesota

The First Decade of Harvard

THE FOUNDING OF HARVARD COLLEGE, *by Samuel Eliot Morison*. Cambridge, Massachuesetts: Harvard University Press, 1935. Vol. I, xxvi+472 pp. $5.00.

This is the first volume of a four-volume history of Harvard University being published in connection with the three hundredth anniversary of the founding of Harvard College. The fourth volume appeared in 1930, entitled *The Development of Harvard University, 1869–1929*. The second and third volumes will be published in the immediate future.

The author, a professor of history at Harvard University, has been relieved of most of his teaching responsibilities during recent years to investigate and to write the history of Harvard. He has done a spectacularly successful piece of work. The present volume carries the history of the College to but ten years after its date of founding, but Mr. Morison has explored and discussed the European and particularly the British precursors of Harvard. He has also given scholarly attention to the Puritan movement in England which led to the establishment of the Massachusetts Bay Colony and in turn to the founding of Harvard.

To the knowledge of the present reviewer no more erudite and at the same time no more readable history of a college or a university has ever been published. The volume should find a wide circle of readers not only among people interested in higher education but also among scholars working in the field of early colonial history.

W. H. Cowley
Ohio State University

The Professional Training of the Hospital Dietitian, *by Helen Clarke.* New York: Teachers College, Columbia University, 1934. iii+96 pp. (Teachers College, Columbia University, Contributions to Education, No. 602) $1.50.

This book reports a study of the academic and hospital training as well as of the duties of hospital dietitians in the United States during 1931 and 1932. The data were secured through replies to questionnaires sent to directors of the departments of home economics of colleges offering a major in foods and nutrition in preparation for hospital dietetics work. Information was studied also regarding the duties of the hospital dietitian and of the training of dietitian internes in the hospitals giving courses and applying for approval by the American Dietetic Association for the year 1933.

The book is an interesting and valuable addition to the literature concerning the profession of dietetics. Its principal value is in connection with the efforts of the American Dietetic Association to standardize the training of the dietitian interne as given in college and hospital.

Hughina McKay
Ohio State University

A Study of the Content of Professional Courses in Education in Institutions of Higher Learning in Oklahoma, *by N. Conger.* Oklahoma City, Oklahoma: State Department of Public Instruction, 1933. 70 pp. (Bulletin No. 133).

This bulletin summarizes the 2000-page report of an analysis of professional courses in education offered by 23 of the 27 teacher-training institutions of Oklahoma. This analysis had its origin in the effort to secure standardization of titles and content. Outlines of 531 courses were analyzed. The 10,579 topics yielded by these outlines were carded, sorted, and grouped under a list of 510 "standard" topics. The most significant findings of this analysis are reported. The bulletin also includes a complete list of course titles, a grouping of these titles under 27 subject-matter fields, and a list of textbooks with frequencies of use.

The report appropriately recognizes the inadequacy of a status study as the basis for the reorganization of courses and curriculums, and recommends that the contemplated state-wide reorganization should follow a more fundamental procedure; namely, that the curriculum makers first should determine the basic objectives, the functions of the teacher in various types of teaching situations; the teacher personality traits, the knowledge of children, skills and attitudes to be developed; points of view and principles to be presented. Then, the needed subject-matter should be selected. For administrative convenience, the organization of the content into courses in the co-operating institutions should be standardized.

Raymond D. Bennett
Ohio State University

In the Lay Magazines

"The Student Agitator," by Carl Bridenbaugh and Norbert Wiener, *Technology Review*, May, 1935.

For various physiological and social reasons adolescence is a period of intense emotional and mental strain. To many, adolescent religion comes as a life-preserver in a sea of insanity. In much the same fashion communism attracts one group of the young radicals of our colleges. Religion may be the opiate of the people but so may communism. It has many religious attributes—a sacred book, a sacred personage, a ritual of activities. "Communism as a faith has performed a service in supplying to many unsettled adolescent minds a creed and a purpose." Protest meetings, picketing, heckling, and like activities may have diverted their energies from perhaps more dangerous channels. But "unfortunately, many youths rest content in these activities and feel that in them they have discharged their entire duty to society."

The result is a mass of young agitators, hecklers, and picketers who are much more interested in the pleasures and pains of immediate martyrdom than in any real effectiveness in the time when the revolution which they predict may have arrived.

In the universities much of the radical movement is in irresponsible hands. No opposition party can afford to ignore the possibility that it may be called on to form a government, but should this happen to the communists, their agitators will at once have to seek new jobs. Administrators and not agitators will be the need of the day. Radical students, therefore, should make the best of the opportunities given them in order of fulfill a useful function as organizers of the new state of society.

It is only natural and fair that those whose entire lives will be affected by any revolution should ask not merely what are the opinions of the proponents of such revolution, but whether they have the detailed plans and a corps of competent, potential civil servants to carry their schemes through.

. . . . . .

One radical student whose radicalism expresses itself in preparing himself for a constructive career . . . is worth more than a thousand of the ordinary propagandists.

The born agitator remains an agitator; "The Robespierres and the Dantons die early and the Trotskys are exiled."

"Free Inquiry or Dogma," by James Bryant Conant, *Atlantic Monthly*, April, 1935.

Today, scholarship is under fire from many directions, and many who have not yet taken the offensive against our colleges and universities are asking searching questions. "Every institution must justify its existence to each successive generation." At the outset the scholar and investigator finds his defense made difficult by the lack of proper historical documentation; yet

if our young men and young women are to have an understanding appreciation of the spiritual values of the civilization which they inherit, they must be given an account of the historical development of our knowledge and of our philosophy.

. . . . . .

Until we have an adequate survey of our intellectual history we cannot expect the world at large to understand the importance of the scholar's contribution to civilization.

Criticism has been directed at our institutions of higher learning for their lack of unity, their preoccupation with trivialities. The critics who use these arguments usually have as their objective a dogmatic educational system. The issue is clear: Are we to have a civilization which draws its non-material sustenance from dogma or from free inquiry? So far as the physical and biological sciences are concerned there seems to be little danger of the specialists getting out of touch with each other, but in philosophy and the social sciences the need is not for co-operation but for debate. "The clash of opinion is the essence of such subjects."

Unfortunately, there seems to be a tendency among our scholars to avoid debate. "We must have our share of thoughtful rebels on our faculties" if our intellectual life is to be quickened.

The connection between such freedom within the academic walls and freedom without is obvious. "Substitute dogma for free inquiry, and open discussion ceases." The criticism that modern scholarship and research is trivial is just, to some extent, but history shows that much time must be wasted by many men on fruitless intellectual adventures in order to provide the proper milieu from which significant contributions may come.

But why all this emphasis on the advancement of knowledge? Why not concentrate on the knowledge we have? In answer to that, Mr. Conant cites the state of Greek culture at the end of the tenth century.

> "Not a single idea had been added to the speculative systems of antiquity, and a succession of patient disciples became in their turn the dogmatic teachers of the next servile generation."

Dogmatic teachers of a servile generation—these words should stand as a warning to all who would shackle our universities and call a halt to the Advancement of Learning.

"College Courses in 'Indecent' Literature," by Bergen Evans, *Scribner's*, April, 1935.

The problem of the objections raised against literature as it is taught in the colleges has social implications. Universities have their utilitarian functions, but many feel that personal culture is a worthy end in itself and that

> the best interests of society will be served if the institutions of higher learning should stand for a free and open inquiry into every field of human knowledge and experience.
>
> And literature, which criticizes all of life, which relates all knowledge to human experience . . . which embodies all protests against all existing orders and all aspirations toward better ones . . . is bound sooner or later to come into conflict with every settled interpretation of life.

in the July, 1935 issue of

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The student is not expected to accept all the ideas expressed in the literature assigned to him—that would be impossible, but "unless he be very dull, he cannot help comparing the experience mirrored in the literature with his own and passing judgments upon it and attempting to create standards whereby he may judge. For literature and ethics are inseparable."

The university student is of an age when he is entitled to examine evidence for himself. His parents must realize that the student must face social, religious, and moral problems whether in college or not.

A great accretion of scientific knowledge has come to us in the last century,

> and literature . . . will play a large part in the unescapable translation of the new theory into action. It will . . . serve to *humnize* all . . . knowledge. And upon the humanization of this vast new knowledge . . . age of disintegrating moral supports, increasing pressures and growing resentments, may depend the future of civilization.